



CBI
Ministry of Foreign Affairs of the Netherlands

Myanmar seafood exports

Quick scan of the EU market potential

Compiled for CBI by LEI Wageningen UR

December 2012



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Date	December 2012
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1 Introduction

1.1 Background and rationale

The Asian region is a major supplier of fish products to the European market. The aquaculture sector in a number of Asian countries has become an important producer as well as exporter of various captured and cultured seafood products. Since Myanmar is in a transition to democracy and the EU decided to remove most sanctions to fuel economic development, Myanmar is very interesting for the European seafood industry. The Dutch Centre for the Promotion of Import from Developing Countries (CBI) and LEI Wageningen UR decided to conduct this quick scan to analyse the EU market potential of the seafood sector in Myanmar.

CBI is currently developing an integrated programme for the seafood sector in Asia and is considering to include Myanmar in this programme. For the development of this programme, a good understanding of the situation in the seafood sector in Myanmar is necessary. This report provides CBI with some key insights which can be used to identify further research questions and to determine whether or not to invest in an export programme for the Myanmar seafood sector.

Objectives

The primary objective of this quick scan is to provide CBI, IOs, NGOs, other (public and private) donors and the private sector with key insights into the seafood sector. The quick scan must contribute to an improved understanding of the characteristics and bottlenecks of captured and cultured seafood production, processing and exports. It will provide the reader with some key insights into the development potential of the seafood sector in Myanmar.

Approach

The research methods used are a desk study and several qualitative interviews with representatives of the seafood sector in Myanmar and global seafood experts (See Appendix 1 for an overview of interviewees). This quick scan provides a short overview of the situation in the seafood sector in Myanmar. It does not attempt to cover everything in depth.

Structure

Chapter two gives a general introduction to fisheries in Myanmar. The next chapter gives a short overview of capture fisheries and aquaculture production. In chapter four the characteristics of the seafood export companies are described and an overview of the bottlenecks for exports to the EU is provided. Finally, chapter five presents the five key insights into the seafood sector in Myanmar.

2 General introduction to the Myanmar seafood sector

This chapter gives some facts and figures about Myanmar and its seafood sector, and information about the sector's public and private business support organisations (BSOs).

Map 1: Myanmar



2.1 Myanmar

Myanmar - or the Republic of the Union of Myanmar, as the country is officially called - is situated in Southeast Asia. The country is divided into 7 states and 7 regions. This report refers to all 14 administrative divisions as regions. Although earlier the capital of Myanmar was Yangon, in 2006 the regime moved the administrative capital to Naypyidaw, a greenfield 320 km north of Yangon. Myanmar borders the Andaman Sea and the Bay of Bengal and has a coastline of 1,930 km. It is strategically located near major Indian Ocean shipping lanes and shares borders with Bangladesh, India, China and Thailand.

Inland waters are made up mainly of the interlocking/mingling of riverine and estuarine systems of the Ayeyarwady (2,150 km long), the Chindwin (844 km) - a tributary of the Ayeyarwady - and Sittaung Rivers (563 km) plus the large Thalwin River (2,400 km) to the east and a small section of the Mekong River basin. Together these systems extend from the eastern part of the Bay of Bengal to the Gulf of Moattama and along the eastern edge of the Andaman Sea.¹

The total population is around 62m (compared with 161m in Bangladesh and 67m in Thailand). More than 5m people live in the largest city and economical hart of the country, Yangon. Approximately 32% of the population lives in poverty (compared with 31% in Bangladesh and 8% in Thailand). Myanmar is the poorest country in Southeast Asia. The Gross Domestic Product (GDP Purchasing Power Parity) was estimated at around USD84bn in 2011 (compared with USD283bn in Bangladesh and USD602bn in Thailand). Almost 40% of the total GDP is contributed by the agriculture and seafood sector, which employs approximately 70% of the total labour force of around 32.5m people. Exports in 2011 totalled USD8.2bn, the main export commodities being natural gas, wood products, pulses, beans, fish, rice, clothing, jade and gems. The main trading partners are Thailand (40%), China (19%), India (12%) and Japan (6.7%).²

2.2 Fisheries and aquaculture

In 2012 Myanmar will produce almost 4.5m tonnes of seafood, which is more than e.g. Thailand (4.2m tonnes). The main source is marine capture fisheries (52%) but inland capture fisheries (28%) and aquaculture (20%) are also important sources. The seafood sector employs approximately 3 to 4 million people. Seafood is the main source of animal protein and an important part of the local diet. In 2011, the average supply of fish per capita (total fish supply - non-consumptive use of fish) was 51 kg and this figure is increasing steadily. This is much higher than the world average, which according to FAO was 18.8 kg in 2010. Lower value fish is marketed mainly on the local market. Seafood exports consist mainly of higher value products such as Black tiger prawn (*Penaeus monodon*), Giant freshwater prawn (*Macrobragium rosenbergii*), pangasius (*Pangasius Hypophthalmus*), tilapia (*Oreochromis niloticus*) and sea bass (*Lates calcarifer*). According to the Department of Fisheries (DoF) there are more than 300 exporters, of which 120 are seafood exporters with processing and cold storage establishments. More than 60% of the processing and cold storage establishments are located in Yangon. At this moment only thirteen processing establishments have an EU approval number. The seafood sector currently does not reach its full potential as a result of a variety of technical,

¹ FAO, Myanmar Aquaculture and Inland Fisheries. RAP publication 2003/18. Food and Agricultural Organisation, Bangkok. 2003.

² <https://www.cia.gov/library/publications/the-world-factbook/geos/bm.html>

political and financial constraints that result in a weak competitive position of primary producers, processors and exporters in the global seafood market.

2.3 Ministry of Livestock and Fisheries

The government of Myanmar aims to develop the seafood sector further because it recognises its significance for local food security, poverty alleviation and the potential contribution to foreign exchange earnings. The primary objective is to increase seafood production for domestic consumption and to export the surplus to overseas markets. The main focus for the further development of the seafood sector is marine and freshwater aquaculture, as production from capture fisheries is declining. Although the tasks and policy of the DoF are clearly described in the statistical yearbook, it seems that there is no official publicly available policy document.

The Ministry of Livestock and fisheries is responsible for regulating and supporting the seafood sector. All responsibilities are appointed to the DoF, which is also appointed as the Competent Authority (CA) by the European Union (EU). The DoF's main responsibilities are:

- 1) the conservation and rehabilitation of fishery resources;
- 2) the promotion of fisheries research;
- 3) the collection of fishery statistics;
- 4) providing extension services;
- 5) the supervision of the seafood sector;
- 6) ensuring that fishery resources are used in a sustainable way.

The DoF employs a total of around 1,800 staff members and is organised in the following five divisions:

- 1) Supervision and management;
- 2) Aquaculture;
- 3) Fish inspection and quality control;
- 4) Research and development;
- 5) Administration and budgeting.

The most important division for seafood exports is the division for fish inspection and quality control, which is responsible for:

- registration of fishing vessels and aquaculture farms;
 - issuing EU approval numbers;
 - food safety inspections;
 - the operation of EU accredited laboratories;
 - lobbying for the elimination of non-tariff trade barriers;
 - facilitating the cooperation and participation of the seafood sector in the Association of Southeast Asian Nations (ASEAN);
 - the implementation of the ASEAN roadmap for integration in the seafood sector.
- The division is also responsible for the sustainable use of natural resources.

2.4 Business Support Organisations

Myanmar has a very strong network of sector associations headed by the umbrella organisation UMFCCI, which is 'the Republic of the Union of Myanmar Federation of Chambers of Commerce and Industry'. Almost every sector has its own federation under the UMFCCI, which operates as an NGO and is responsible for representing and safeguarding the interests of the private sector. Services provided by the

UMFCCI include human resources development and training, commercial courses, management and accounting, providing trade information and participation in international trade fairs.

The seafood sector is represented in the UMFCCI through the Myanmar Fisheries Federation (MFF). The MFF was founded in 1989 as the highest national level non-profit organisation with a mandate to encourage, support and promote the development of the seafood sector. Furthermore, the MFF is responsible for bridging the gap between the policy makers at the DoF and the seafood sector. The organisation is managed and operated by representatives of the seafood sector. It has its head-quarters in Yangon and regional and local offices throughout the country. Most of the association's board members are senior industry insiders who work voluntarily for the MFF. The MFF consists of a number of associations that represent all seafood sector stakeholders:

- 1) Myanmar Shrimp Association (MSA);
- 2) Myanmar Fish Farmers Association;
- 3) Myanmar Fishery Products Processors and Exporters Association;
- 4) Myanmar Aqua-feed Association;
- 5) Myanmar Marine Fisheries Association;
- 6) Myanmar Freshwater Capture Fisheries Association;
- 7) Myanmar Crab Entrepreneurs Association;
- 8) Eel Entrepreneurs Association; and
- 9) Ornamental Fish Entrepreneurs Association.

All the associations have their office in the MFF building in Yangon. Each association has a representative in the board of the MFF and board members emphasise that cooperation between the different member associations is strong and that they work together to strengthen the entire seafood sector.

3 Seafood production

Myanmar has large inland and marine fisheries and aquaculture resources. These natural resources are exploited by both large and small-scale capture fisheries and aquaculture activities. In 2011, Myanmar produced over 4.1m tonnes of seafood and the total for 2012 is expected to reach 4.5m tonnes.³ This chapter elaborates on the characteristics and constraints of the aquaculture and capture seafood sectors.

3.1 Aquaculture

In Myanmar the total area under aquaculture production is about 181,000 ha. The total area under shrimp culture is over 92,000 ha while the total area under fish culture is approximately 89,000 ha. Shrimp ponds are mainly located in the following regions: Rhakine (75%), Ayeyarwady (20%) and Yangon (5%). Fish ponds are mainly located in Bago (11%), Ayeyarwady (50%) and Yangon (28%). The estimated total shrimp production for 2011 is 20,000 tonnes while fish accounts for more than 800,000 tonnes.⁴ The DoF has increased efforts to further develop the aquaculture sector because it recognises its potential for Myanmar. This section discusses the main characteristics of shrimp, fish and other aquaculture activities in Myanmar.

3.1.1 *Shrimp farming*

The shrimp farming sector in Myanmar is concentrated in three regions: 1) Rakhine in the Northwest, close to the border with Bangladesh and 2) Ayeyarwady and Yangon in the delta region in the central part of the country (see map 1).

Rhakine region

The Rakhine region has the largest area of shrimp farming. The shrimp sector in this region employs approximately 330,000 people and although there are some larger commercial farms, the sector is dominated by small-scale producers. Farmers generally operate large ponds with extensive and improved extensive production systems that are locally referred to as trap and hold systems. In these systems, farmers grow the animals that are trapped after flooding, but also add Black tiger prawn post-larvae. Black tiger prawn is the main product that is farmed in Rhakine. Other shrimp species (e.g. *P. indicus*, *P. merguensis* and *Metapenaeus sp.*), mud crab (*Scylla serrata*) and sea bass are harvested as by-products.⁵ Pacific white shrimp (*Litopenaeus vannamei*) is not farmed in Rakhine.

³ Department of Fisheries, Fishery Statistics 2012. Ministry of Livestock and Fisheries, Nay Pyi Taw. 2012.

⁴ Idem.

⁵ http://lift-fund.net/downloads/call_for_proposal/Final_Report_VCA_Prawn_Sector_Rakhine.pdf

Photo 1: Shrimp farming in Rhakine



After a rapid expansion of the shrimp farming area from approximately 33,000 ha in 2001 to almost 63,000 ha in 2005, the area declined to about 44,000 ha of shrimp farms in 2011.⁶ The earlier increase in shrimp farm area was fuelled mainly by foreign investment from Bangladesh. The DoF reported that besides the decline in farming area, the productivity also dropped from 80-100 kg/ha in 2002 to 30-50kg/ha in 2011. The drop in production and reduction in farming area is mainly caused by:

1. disease outbreaks;
2. lack of post larvae (only 10% are produced locally, the remainder need to be imported from Bangladesh);
3. a lack of pond maintenance;
4. recurring natural disasters.

Although traders in Rhakine purchase shrimp directly from larger scale private farms, shrimp from small-scale producers are mostly collected by local traders who consolidate supply and act as intermediary. The traders in Rhakine mostly purchase headless shrimp (prepared at the farm), subsequently chill the shrimp in transport boxes and export them to exporters with processing establishments in Bangladesh. Farmers, collectors and traders often operate in a loan scheme where traders provide cash advances in exchange for a buy back guarantee.

Exporters in Bangladesh can generally offer better prices than local processors in Rhakine or Yangon. Therefore, most farmers in Rhakine choose to supply to traders who export to Bangladesh. This is especially the case for the relatively smaller Black tiger prawn (16-50 headless shrimp per 450 grams, the local standard weight) while larger shrimp (2-15 headless shrimp per 450 grams) are mainly supplied to the Yangon region and exported to Japan.⁷

⁶ Idem.

⁷ http://lift-fund.net/downloads/call_for_proposal/Final_Report_VCA_Prawn_Sector_Rakhine.pdf

Ayeyarwady and Yangon Region

The total shrimp farming area in the Ayeyarwady and Yangon region covers approximately 28,000 ha (24,000 ha in Ayeyarwady, 4,000 ha in Yangon). Currently two main species are cultured:

- 1) Pacific white shrimp
- 2) Giant freshwater prawn (*Macrobrachium rosenbergii*)

In 2000 the government instituted the Shrimp Aquaculture Development Committee, which formulated and implemented a three-year project plan for the intensification of the shrimp production in Myanmar. The project focused on transforming extensive ponds into improved extensive systems in the Rhakine region and the Ayeyarwady region and on introducing semi-intensive and intensive production systems in Yangon and Ayeyarwady. To manage the shrimp farming sector, the committee appointed specific areas for shrimp farming where families and commercial enterprises could lease land to construct shrimp farms (see Photo 2).

Photo 2: Shrimp farming in Ayeyarwaddy



When the project was finished in 2003, 2,100 ha of semi-intensive or intensive shrimp ponds were built in Ayeyarwady and Yangon. By the time the three-year project plan was implemented, many private companies emerged that got involved in the shrimp industry. The rapid expansion of shrimp production resulted in a shortage of post-larvae due to a limited number of local hatcheries. To secure the supply of post-larvae, shrimp farmers bought post-larvae from hatcheries in Thailand and Bangladesh. Purchases of bad quality post-larvae are expected to be the source of the outbreaks of the White Spot Disease. In 2004-2005 this disease hit the semi-intensive and intensive shrimp farms in Ayeyarwady and Yangon. As a response to the White Spot Disease, shrimp farmers requested the DoF to allow the import of Pacific white shrimp. Although the government hesitated, after a couple of trial projects and a temporary ban that was implemented to prevent disease outbreaks, the DoF approved to import SPF Pacific white shrimp post-larvae from Hawaii. Although initially the culture of Pacific white shrimp was relatively successful, production has now collapsed. This collapse was caused by:

1. natural disasters in 2008 and 2010;
2. high fuel prices for the use of paddlewheels and pumps;
3. low market prices.

Currently most of the intensive and semi-intensive shrimp farms and companies have ceased production or changed to extensive production systems and fish instead of shrimp culture. Farms that continue intensive and semi-intensive shrimp production currently only produce for the local market. Local market demand is mainly small size (100 headless shrimps per 450 grams) Pacific white shrimp of which the local market can absorb approximately 6 tonnes per day. Farmers in Ayeyarwady and Yangon emphasise that they need government assistance to revitalise production and to reduce production costs to be able to produce a competitive product that can be marketed internationally.

Besides the production of Pacific white shrimp, this region is also known for the production of Giant freshwater prawn. Giant freshwater prawn is mostly produced in polyculture systems where the culture of Giant freshwater prawn is combined with carp and other freshwater fish species. Exporters in Yangon purchase the prawns from local collectors who consolidate supply and process the material at their factories. At the moment Giant freshwater prawn is mainly exported to Japan, but there is also an increasing local demand for what is considered a luxury product.

Constraints at the production level

As described above, especially the Pacific white shrimp but also to a lesser extent the Black tiger prawn farm sector have been in crisis since the 21st century. There are a number of issues at the primary production level that need to be solved before the sector can revive and reach its full potential. The most important issues are discussed below.

- *Lack of access to capital to build infrastructure for intensive and semi-intensive farms*

As a result of cyclones in 2008 and 2010 many shrimp farms have been damaged. Shrimp farmers lack the capital and as interest rates for loans reach 60% they also lack the market incentives to repair their farms. As a result they request the government and exporters with processing establishments to invest in the shrimp farming sector. However, until now financial support has been limited. The exporters argue that they do not have the financial capacity to invest outside the factory boundaries. It is likely that there will only be investments in shrimp farm infrastructure when the farms are able to produce a competitive product. However,

farmers will not start to invest in production as long as there is no market for their products.

- *High cost for shrimp production for intensive and semi-intensive farms*

Electricity supply is a crucial issue in Myanmar. While even factories in the cities are not continuously supplied with electricity, shrimp farms in rural areas have no electricity supply at all. Therefore especially semi-intensive and intensive farms that depend on power supply for water exchange and paddlewheels are confronted with extremely high costs. According to farmers, diesel costs amount to approximately 25% of total production costs and make local production uncompetitive compared with the shrimp produced in other countries where farmers operate tidal systems or have an electricity supply on the farm. This is stipulated by the fact that it already has been reported that Thai shrimp were sold in the local markets below the local prices. Semi-intensive shrimp farms will be unable to produce a competitive product if they do not have access to electricity.

- *Lack of cooperation between farmers and exporters in the Ayeyarwady and Yangon regions*

Exporters are reluctant to work with farmers as there is no product that can compete in the international market. They do not invest outside their factory boundaries and do not provide inputs such as feed, post-larvae and working capital. Moreover, farmers are not supported during harvest and post-harvest activities. This contributes to the high production costs of shrimp farms. In other countries it has been proven that cooperation between farmers and exporters is a crucial issue to improve farm productivity and ensure food safety issues in the supply chain. However, as long as the locally produced shrimp is not competitive in the international market, exporters have no incentive to increase cooperation.

- *Lack of productivity of traditional shrimp culture in Rhakine region*

Although extensive shrimp farmers are doing relatively well, here the situation is also not optimal. The main issue for the Black tiger prawn farms in the Rhakine region is the availability of post-larvae. The DoF hatchery supplies only 10% of the local demand. Consequently, farmers depend on the availability of wild captured and hatchery post-larvae from Bangladesh. The MSA argues that the government should invest in more government hatcheries in Rhakine to provide the farmers with sufficient quantities of high quality post-larvae, which enables farmers to use higher stocking densities. Besides the lack of high quality post-larvae, the large-sized ponds in Rhakine are difficult to manage. In general it is argued by MSA that the large ponds must be divided into smaller production units to manage the production more efficiently.

3.1.2 *Other coastal and marine aquaculture*

Besides shrimp, coastal and marine aquaculture consists mainly of the culture of groupers, seabass, mud crab and relatively small volumes of e.g. cockles and lobster.⁸ These activities are concentrated in the Ayeyarwady and Yangon regions, but also take place at a smaller scale in other coastal regions.

Mud crab

Mud crab (*Scylla spp.*) farming is also important in Myanmar. Mud crab culture in mangroves or on tidal flats is practiced mainly in the Ayeyarwady delta area, in

⁸ FAO, Myanmar Aquaculture and Inland Fisheries. RAP publication 2003/18. Food and Agricultural Organisation, Bangkok. 2003.

Rakhine and southern parts of Myanmar. Most crab fattening is practiced in ponds, pens (bamboo enclosures) or cages located in river and canal systems. Trade in mud crab appears to be thriving in the Ayeyarwady delta region. A large part of the production is for export to Singapore and China, including significant quantities transported to China by road. Since crabs must arrive live at their final destination, the trading network is well organised.

Fish

Groupers (*Epinephelus* sp.), locally known as 'Kyauk Nga' or 'Nga Tauk Tu', are important marine fishes. Groupers are exported live, and in chilled or frozen form. The export of live groupers is intended primarily for the live reef fish trade in Hong Kong. Marine and brackish water fish farming is mainly found in the Ayeyarwady delta area, Rakhine and southern parts of Myanmar. There is also some extensive pond culture of sea bass in these areas. Sea bass is sometimes also a by-product in extensive shrimp ponds. Sea bass is mostly consumed locally but small volumes are also exported to Australia.

Other

Although there have been efforts to culture seaweed, oysters, cockles, lobsters and other products, until now these efforts have not yet shown significant results. The DoF invests in trials and experiments but until now the extent of upscaling to commercial operations has been limited. Without foreign expertise and capital it will be difficult to further develop coastal and marine aquaculture.

3.1.3 *Inland aquaculture*

Freshwater aquaculture takes place mostly in the Ayeyarwady, Yangon and Bago regions. Freshwater fish producers can be divided into small-scale producers that cater mainly to the local market and large-scale vertically integrated farms that cater mostly to the export markets. Small-scale producers contribute directly to local food security, while the larger producers contribute indirectly through creating employment and foreign exchange earnings. The most important export market for freshwater fish is the fast developing intraregional market in Southeast Asia. It essentially consists of indigenous freshwater species such as Indian carp (*Labeo rohita*), Catla (*Catla catla*), Mrigal (*Cirrhinus mrigala*), Pangasius and tilapia.⁹

The culture of Indian carp (locally referred to as Rohu) developed into a lucrative industry during the late 1990s and 21st century.¹⁰ The vertically integrated enterprises normally have their own hatchery, farm and processing establishment. In some cases these enterprises even have their own feed production units. The integrated farms initially focused on an export market for Indian carp in Bangladesh. Particularly in the last 10 or 11 years, this focus on Bangladesh has expanded to other regions where there are considerable expatriate communities of Indian and Bangladeshi origin, including the Middle East and the EU. This sector flourished until 2007-2008, but as a result of overproduction, market prices collapsed and the business went down. Currently the sector is relatively stable.

⁹ Aye, M.A., K. K. Lay, H. Win and S. S. De Silva, A new freshwater aquaculture practice that has successfully targeted a niche export market with major positive societal impacts: Myanmar. *Aquaculture Asia*, Volume XII No. 4 October-December 2007.

¹⁰ Idem.

3.2 Capture fisheries

The capture fisheries sector in Myanmar can be divided into inland and marine capture fisheries. In 2011 inland capture fisheries contributed 1.15m (27%) tonnes and marine capture fisheries 2.15m (52%) tonnes to the total seafood production.¹¹

*Inland capture fisheries*¹²

Inland capture fisheries in Myanmar can be divided into leasable and open fisheries. Leasable fisheries are floodplain fishing grounds which are leased on a yearly basis to individuals (or groups). The lessee has the right to exploit all the fish resources and is allowed to choose to stock species of his choice when the flooding occurs. Leasable fisheries are mainly controlled by large commercial operators or institutions, but depending on the management these lessees can support large numbers of sub-lessees and fish sellers. Open fisheries informally use water bodies, streams, lakes, reservoirs and rice. Even though officially all fishing activities need to be approved and monitored by the DoF, this activity is widespread as these activities are difficult to monitor. The DoF generally accepts that fishing for subsistence purposes cannot be regulated. In 2011 the total production of leasable fisheries was estimated at 250,000 tonnes while the production of the open fisheries is estimated at 910,000 tonnes.

Marine capture fisheries

Although landings are currently declining, the marine fisheries resources potential is high and a wide variety of commercially interesting species including white pomfret, ribbonfish, pink shrimp, sea eel, Hilsa and Croaker are captured by small-scale and commercial fishing boats and vessels.

Marine capture fisheries in Myanmar can be divided in small-scale inshore and offshore marine fisheries. In 2011 there were 28,350 small-scale fisheries boats registered by the DoF of which 15,100 (53%) were non-motorised. In addition, there were 2,450 offshore vessels of which 400 (16%) were owned by foreigners. The off-shore vessels mainly use the following fishing catching methods: trawling (41%), driftnet (32%) and purse seine (7%).¹³ Interestingly, while other countries try to diversify their trawling fleets with longline vessels which are more suitable and more sustainable for catching yellow fin tuna, Myanmar currently has only one vessel that is equipped with longline technology. Although there are a few pursein vessels, tuna catches are limited.

A main constraint to the development of marine capture fisheries is that the DoF does not permit deep-sea fishing for Myanmar vessels, but restricts fishing activities to inshore waters. Deep-sea fishing grounds are allocated to foreign vessels that have been granted a permit by the DoF. As a result, valuable seafood products like yellow fin and skipjack tuna are landed in Thailand instead of Myanmar. Moreover, although foreign vessels are only allowed to fish in allocated fishing grounds, this is often not enforced by the coast guard and the DoF. Local fishermen complain that foreign vessels do not comply with the regulations and illegally capture large volumes of fish in inshore waters that are formally allocated to Myanmar vessels.

¹¹ Department of Fisheries, Fishery Statistics 2012. Ministry of Livestock and Fisheries, Nay Pyi Taw. 2012.

¹² FAO, Myanmar Aquaculture and Inland Fisheries. RAP publication 2003/18. Food and Agricultural Organisation, Bangkok. 2003.

¹³ Department of Fisheries, Fishery Statistics 2012. Ministry of Livestock and Fisheries, Nay Pyi Taw. 2012.

Fish Landings

Fish landings in Myanmar are well organised compared with other countries in the region like Bangladesh and India. Each boat has a registration number from the DoF and is allocated to one specific fish landing site (or jetty). These landing sites are located throughout the country where fresh water and marine fish are landed. Capture fish are sold through an auction system at the jetty.

Currently only three landing sites have been approved by the EU, two for marine capture fisheries and one for inland capture fisheries. These landing sites are located close to Yangon and organise the landing and marketing system according to EU food safety standards. The fish landed here is auctioned per product per boat. The Yangon office of the DoF issues Product Movement Documents (PMDs) that include the species, fishing vessel, fishing ground, landing site, etcetera. With a PMD, exporters can comply with traceability and Illegal, Unreported and Unregulated fishing (IUU fishing) regulations.

4 Seafood exports

After a short introduction on the Myanmar seafood trade with the US, Canada and the EU, this chapter elaborates on the current export products and markets, the characteristics of seafood export companies and constraints to seafood exports to the EU. In 2011 international trade data only show seafood exports of around USD300m, while the DoF reports total seafood exports of USD653m or 387,000 tonnes. Fish accounted for USD396m (61%) and 283,500 tonnes (73%), shrimp accounted for USD86m (13%) and 18,000 tonnes (5%) and other products like crab and sea eel accounted for USD171m (26%) and 85,500 tonnes (22%). The difference in the figures is likely to be caused by border trade with Bangladesh, India, China and Thailand) that is not fully reported by the DoF.

4.1 Seafood trade with the US, Canada and the EU

US and Canada

Previously the US was an important export market for Myanmar. However, since 2004 US buyers could no longer do business with Myanmar as a result of trade sanctions. Before the trade sanctions were imposed, the US purchased almost USD25m of frozen shrimp and around USD3m of frozen fish per year from Myanmar exporters. Seafood exports to the US only started again in 2012 but are still limited. After the US, Canada - which imported almost USD10m of shrimp products per year - also imposed sanctions in 2008 and stopped importing.

EU

The EU already removed the Generalised System of Preferences (GSP) status of Myanmar in 1997 after accusations of forced labour by the International Labour Organisation. Even though the loss of the GSP status affected the competitiveness of seafood products, some EU buyers continued to source from Myanmar. The sanctions the EU imposed in 2003 did not affect seafood exports. However, in 2009, after reported shortcomings of processing establishments and landing sites, the EU decided to ban the exports of seafood products. Exports of captured seafood products were reapproved in 2010, while exports of aquaculture products remain prohibited.

Despite the sanctions, the UK continued to import around USD15m of seafood per year. This catered mainly for ethnic Indian and Bangladeshi communities in the UK. Previously UK imports consisted of an almost 50% share of cultured shrimp and a 50% share of captured seafood products. However, as a result of the restrictions on aquaculture products, currently all imports consist of captured seafood products (fish and shrimp). Other EU countries like Belgium and Germany previously imported mainly cultured shrimp and currently import only very small volumes of captured seafood products.

While Norway already granted Myanmar the GSP status it is expected that the EU member states will follow in 2013. Since the EU announced that Myanmar will be given the GSP status in the near future, many exporters hope that they will regain their competitiveness in the EU market. Nevertheless, exporters in Myanmar foresee many constraints (see section 4.4) that temper their expectations. Exporters argue that if these constraints are not removed, it may be much more attractive to export to Australia or the US, where food safety and buyer requirements are easier to comply with.

4.2 Top seafood export products in 2011

Seafood products are exported in various forms. The largest part is exported chilled through border trade for the regional market. Smaller volumes are exported in frozen form. If the products are frozen, large-size shrimp is generally packed IQF while small-size shrimp is generally block frozen. Frozen fish is mainly exported as whole gutted fish and in some cases also as fillet products.

Table 1: Export volumes (in tonnes) of the top seven export products (according to value) for captured marine fish, captured freshwater fish, cultured freshwater fish, captured and cultured shrimp and live exports (excluding dried products).

Capture marine fish ¹⁴		Capture fresh water fish		Cultured fresh water fish		Captured or cultured shrimp		Live exports	
Name	Volume (tonnes)	Name	Volume (tonnes)	Name	Volume (tonnes)	Name	Volume (tonnes)	Name	Volume (tonnes)
Hilsa	10,968	Bowal	749	Indian Carp	85,193	Pink shrimp	11,469	Crab	11,442
White Pomfret	4,688	Ayer	512	Migral	5,929	Black tiger prawn	3,652	Eel	7,949
Rosey Jew Fish	5,803	Moila	348	Katla	2,543	Indian White shrimp	3,421	Lobster	460
Ribbon Fish	9,709	Shoil	258	Puti	1,076	Giang freshwater prawn	280	Mantis shrimp	247
Pelathu	18,057	Pabda	85	Carfu	974	Flower shrimp	113	Worm Eel	123
Yellow Croaker	3,620	Chiring	80	Tilapia	837	Balt Jade shrimp	91	Fin Eel	59
Big eye Croaker	7,098	Kiski	77	Pangasius	645	Pacific white prawn	53	Sole	18
Others ¹⁵	113,213	Others	543	Others	47	Others	63	Others	44
Total	173,156	Total	2,643	Total	97,244	Total	19,142	Total	20,342

Source: Department of Fisheries 2012 (unpublished)

Table 1 shows that although for captured marine fish the species are varied, for the other categories there are dominant products. The most important cultured freshwater species is clearly Indian Carp, while the most important shrimp species are Pink shrimp (captured) and Black tiger prawn (cultured). Live exports consist mainly of mud crab (cultured) and eel (captured) for high value markets in the region.

Although some of the fish that is exported is only interesting for the intraregional trade and expat communities around the world, there are also many products (like pomfret, ribbon fish, croaker, tilapia, Indian carp, and various shrimp species) that have a large demand in high value markets in China, Japan, Australia, the EU and the US.

¹⁴ According to value, because small fish represent large volumes but very small values. This is only the case for marine capture seafood exports.

¹⁵ This category is a wide variety of species with all very small volumes including barramundi and sole.

4.3 Top seafood export markets in 2011

From Table 2 it becomes clear that China and Thailand are by far the most important trading partners for Myanmar. However, other markets are increasing in relevance. While shrimp exports are mainly oriented towards Japan which accounts for almost one third of total shrimp exports, fish exports are more targeted towards the Middle East. Besides Saudi Arabia and Kuwait, also Jordan, Dubai, Bahrain and Qatar import fish from Myanmar. It is important to realise that there are signals that part of the products are exported through border trade is processed and re-exported from Thailand, China and Bangladesh. Now sanctions from the EU and US are being withdrawn, it is likely that direct exports from Myanmar will increase.

Table 2: the five most important export markets for three species groups in 2011

Shrimp			Fish			Others (including live eel and crab and dried fish)		
Country	Value (USDm)	Volume (tonnes)	Country	Value (USDm)	Volume (tonnes)	Country	Value (USDm)	Volume (tonnes)
Japan	19.4	5,256	China	78.2	31,965	China	83	40,496
China	18.6	5,453	Thailand	91.5	118,997	Malaysia	28	15,703
Thailand	9.4	2,634	Singapore	41.5	18,867	Singapore	10.0	4,254
Singapore	7.9	2,291	Kuwait	56.6	50,639	Thailand	9.6	13,003
Bangladesh	4.1	750	Saudi Arabia	24	19,237	Indonesia	3.5	1,479

Source: Department of fisheries (2011)

In Table 3 it can be seen that the EU market share is still small. In 2011 the EU imported almost USD1m of shrimp products, USD13.21m of fish (mainly freshwater fish in the UK) and USD220.000 of live products (mainly crab).

Table 3: Exports to the EU by country in 2011

Shrimp			Fish			Others (including live eel and crab and dried fish)		
Country	Value (USDm)	Volume (tonnes)	Country	Value (USDm)	Volume (tonnes)	Country	Value (USDm)	Volume (tonnes)
Belgium	0.3	61	UK	12.7	6,396	UK	0.2	76
UK	0.2	15	Italy	0.4	248	Netherlands	0.02	10
France	0.1	14	Sweden	0.1	64			
Sweden	0.1	11	Netherlands	0.01	12			
Others								
	8.9	2,658	Others	36.99	26,619	Others	9.68	
Total	69	19,143	Total	342	273,044	Total	144	81,706

Source: Department of fisheries (2011)

4.4 Seafood processing establishments

Myanmar has approximately 120 cold storage and processing establishments for seafood products. The majority (69) of these establishments are located in Yangon. The others are located across the country close to the main fish and shrimp landing sites in Rhakine (7), Ayeryawady (6), Mon (7), Shan (1) and Thaninthayi (20).

After an EU inspection in 2009, Myanmar lost its approval for exports to the EU. Only in 2010, after new EU inspections, Myanmar regained approval for the exports of captured seafood products. However, until now the EU-approved processing establishments cannot export aquaculture products to the EU. To get this approval the DoF is currently developing its 'National Plan for Monitoring of Residues of Veterinary Medicine and Environmental Contaminants'. The EU and the ADB (Asian Development Bank) are supporting the DoF to develop this plan, to train staff and to improve the infrastructure of the EU-accredited lab which has to issue export certificates for aquaculture products. It is expected that Myanmar might regain approval for the exports of aquaculture products after the upcoming EU inspection of the Department of Fisheries in 2013.

In 2008 there were about 43 EU-approved processing establishments¹⁶. Currently, only 13 of the processing establishments have applied for re-approval for exports to the EU (see Table 4). In 2008 there were EU-approved processing establishments in Rhakine (2), Ayeyarwady (1) Yangon (35), Tanintharyi (5). Currently, all EU-approved establishments are located in the industrial zones of Yangon (12) and in Ayeryawadda (1). The number of workers in the factories varies between 250 and 1,000. In general, shrimp exporters have more workers than fish exporters.

¹⁶ Link: <http://www.food.gov.uk/multimedia/pdfs/listiimyanmar0808.pdf>

Table 4: EU-approved processing establishments in Myanmar in 2012

	Company name	Website	Products	Exports to the EU between April – October 2012
1	United K.M.K. Company Limited	N/A	Integrated Barramundi production	No
2	Great International Fisheries Limited	N/A	Wild and Cultured shrimp	Yes, freshwater HLSO prawn (2.4 tonnes)
3	Shwe Yamone Manufacturing Company Limited	http://www.shweyamone.com	Mainly Black tiger prawn but also other shrimp and fish products	No
4	May Yu Marine Products Co., Ltd	N/A	Fish and shrimp	Yes, Freshwater Fish and Prawn (1.990 tonnes)
5	Twin Brothers Seafood Cold Storage	N/A	N/A	Yes, Freshwater Fish (462 tonnes)
6	Myint Myat Hein Co., Ltd	N/A	N/A	Freshwater Fish and Marine shrimp (1.448 tonnes)
7	Ghani Win International Modern Processing Plant And Cold Store	N/A	Fish and shrimp	Freshwater Fish (369 tonnes)
8	General Food Technology Industry Company Limited	N/A	Value-added shrimp products	Frozen Cooked and Peeled prawns (41 tonnes)
9	Ayeyarwady Fisheries Cold Storage	N/A	N/A	No
10	Yuzana Fisheries Ltd	N/A	N/A	No
11	Shwe Myanmar Cold Store	http://www.shwemyanmarcoldstore.com	Mainly fresh water and marine fish and small volumes of shrimp	Freshwater Fish (152 tonnes)
12	Myanmar Sea-Foods Limited	http://pages.fis.com/myanmar-seafood/market.html	Mainly shrimp	No
13	Crabs World Industries Co., Ltd.	http://www.aungmoekhine.com/	Soft and hard shell crab	No

Source: Department of fisheries (2012)

Most of the EU-approved factories are equipped with modern processing technologies. Shrimp exporters generally are equipped with IQF (Individually Quick Frozen) and block or plate freezing equipment. Only one EU-approved shrimp exporter with cooking technologies could be identified during this study. At present, no factories that have IFS or BRC food safety certificates can be identified. Exporters indicate that with the current export markets this is not

required and that costs of certification and audits are currently higher than the benefits.

Although the number of EU-approved processing establishments is currently limited it is likely that when the constraints for market access to the EU market are solved, many of the exporters that were previously EU approved and did not leave the seafood sector are interested in reapplying for EU approval.

4.5 Bottlenecks for exports to the EU market

Myanmar seafood products are very interesting for the EU market. Not only various shrimp species but also various freshwater and marine fishes are in demand in the EU. Although exporters may enjoy the GSP status in the EU in the near future, they still foresee many constraints to the competitiveness and export potential of Myanmar seafood products in the EU market.

Electricity costs

A main issue for processing and cold storage establishments is that electricity supply is unreliable. Processing establishments are often confronted with interruptions of the electricity supply which force them to use diesel aggregators to secure power for the freezing machines and cold storage facilities. The use of diesel increases operational costs and further weakens the competitive position of exporters. Although electricity supply has improved in recent years, it remains a worry for exporters with processing establishments.

Lack of raw material supply

As a result of the collapse of the shrimp farming sector, the limited access to deep-sea fishing grounds and the declining supply from capture fisheries, exporters are confronted with a declining raw material supply. In addition, relatively high local market demand and competition for raw material from Chinese and Bangladeshi buyers confront exporters with high prices for the raw material. To keep the factories operational, exporters are carrying out an experiment with the DoF by importing fish from South America to process and re-export fish products. Although this does not help exporters with processing establishments to increase their profits, it may limit their losses. It is likely that when catches decline further, exporters need to invest more in aquaculture production to secure supply for their factories.

Food safety

Food safety at lower stages in the supply chain is crucial for market access in the EU. Food safety relates mainly to the use of clean ice for the chilling of seafood on the fishing boats and after landing. Also, traceability must be maintained to comply with IUU fishing regulations. For EU-approved exporters to source from more fish landing sites, the management of landing sites are regularly requested to upgrade hygiene standards and infrastructure. This would enable these landing sites to get EU-approval and provide EU-approved exporters with more raw material. However, the managers of these landing sites argue that there is no capital to invest in the landing sites. Exporters are unable to provide financial support because their own financial situation is insecure.

Competition from regional buyers

A main problem for exporters with processing establishments in Myanmar is the competition from Chinese and Bangladeshi buyers. Chinese and Bangladeshi buyers get a 10% subsidy from their own government for the export of seafood products from China and Bangladesh. Consequently, in Myanmar these foreign buyers are

prepared to pay much higher prices for the raw material than local exporters with processing establishments in Myanmar and this increases local raw material prices. These foreign buyers purchase the raw material, chill or freeze it in local processing establishments that are their property or chill the products, export them to China or Bangladesh, repack them in Chinese or Bangladeshi processing establishments and then export them as a Chinese or Bangladeshi product to third-country markets.

Tax burden

Previously exporters were confronted with an export tax of 10%. This tax has been gradually reduced to 7% in early 2011 and 2% in late 2011. This tax reduction represents an effort by the government to support exporters with an improved competitive position in the regional and global market. Although the tax reduction is temporary, exporters emphasise that if this barrier is reinstated they will once again lose their competitiveness.

Financial sanctions

As a result of financial sanctions imposed by the EU and other countries Myanmar is not yet fully connected to the global financial system and transactions have to be made in cash. It is expected that this situation will improve shortly as most of the international sanctions have been withdrawn. This will make it more attractive for EU seafood buyers to purchase in Myanmar. It is crucial that this bottleneck is solved quickly because otherwise the business climate is not very attractive.

100% checks for EU market

Since 2002 Myanmar has been confronted with 100% checks of seafood exports as a result of contaminations of shrimp exports with antibiotics. The measure of the 100% checks related to the risk of contamination of aquaculture products. However, the 100% checks are still in place while aquaculture exports are banned and at this moment only captured seafood products can be exported to the EU. An exporter who used to export shrimp products to the EU indicated that the costs for the checks are around UKP2,000 per container. In addition to the financial costs, shipments are delayed as a result of the testing procedures. The 100% checks are likely to be removed when the DoF has implemented the residue monitoring plan and gets approval for the exports of aquaculture products to the EU.

Visibility in the international market

As a result of the years of isolation, EU buyers know little about Myanmar. EU-approved exporters in Myanmar are very difficult to find online and buyers cannot easily approach them. Also, although the MMF and the DoF are responsible for the promotion of the Myanmar seafood sector abroad, it seems that currently these efforts are limited. There is no marketing strategy to develop a market brand for Myanmar seafood in the international market.

5 Conclusions

The seafood sector in Myanmar has a large potential to contribute to food security, employment and economic development. Natural resources are widely available and fisheries is an important source of income and animal protein for the domestic population. Some products, like Indian Carp and Hilsa, are mainly aimed for ethnic minorities in regional and overseas markets. Many products, like shrimp, mud crab and sea bass have a large commercial potential in high value markets in the EU and other overseas markets. To reach its full potential many constraints at the production and export level need to be overcome. As a result of years of isolation the seafood sector is currently focused on regional markets and not comparable with seafood sectors in Vietnam, India and Indonesia. It is expected that increased exports to the EU and to the US will contribute to the modernisation of the seafood sector. An overview now follows of the five key insights into the development potential of seafood production and exports in Myanmar.

Key insight 1: Constraints in the production and exports of cultured shrimp

The shrimp farming sector in Myanmar has collapsed and needs to be revitalised. To provide the sector with an incentive to invest in production, market access to high value markets in the EU, US and Japan is essential. This includes achieving GSP status in the EU, the removal of trade barriers in the US and at the same time the development and implementation of the EU residue monitoring plan to get approval for the exports of aquaculture products. The latter will help lift the 100% checks in the EU and make the Myanmar products even more competitive. Myanmar requires assistance to build capacity to carry out all these tasks.

When technical and tariff barriers are addressed and resolved, shrimp farmers need to revive production and be assisted in producing a competitive product. This requires cooperation between academics, the DoF, the private sector, IOs and NGOs to provide material inputs, technical expertise and also a capital injection to rebuild and improve the infrastructure. A crucial part of the interventions should be electricity supply because this can reduce production costs by 20 to 30%. At present, various NGOs and IOs are considering to support the shrimp sector but no actual programmes have been implemented yet. Considering the current status of the shrimp farming sector, it is unlikely that the shrimp farming sector will recover without these types of support.

Key insight 2: Constraints in the production and exports from capture fisheries

Myanmar could produce more from capture fisheries if it would restrict fishing activities of foreign vessels or require them to land the captured fish in Myanmar instead of in Thailand. To achieve this, policy must be reconsidered and law enforcement by the Myanmar Navy or coast guard should be strengthened. Although there are no figures available, it is likely that if all the fish is landed in Myanmar, considerable volumes of high value fish like tuna would become available and could contribute to export earnings. However, the government and private sector should then also invest in fishing technologies and fishing vessels to develop more deep-sea fishing capacity. Although there is some potential to increase catches in marine fisheries, it is likely that inland fish stocks are already fully exploited.

To reduce post-harvest losses in capture fisheries it is crucial to invest in the quality of the infrastructure along the supply chain. The quality of fish landing sites,

facilities for the production of good quality ice, and the availability of transport are crucial for food safety and for the reduction of post-harvest losses. If the Department of Fisheries is able to increase the number of EU-approved jetties, this would not only reduce post-harvest losses but also increase the volume of the products that are available for exports to the EU. This will also contribute to the sustainable management of fishery resources and long-term prospects of the seafood sector because fishing vessels that land their products at EU jetties are better monitored than other vessels.

Key insight 3: GSP status will accelerate development and improve competitiveness
Insights 1 and 2 relate mainly to increasing the supply of raw material to the processing and export companies. However, it is likely that also without an increased supply of raw material, export markets for Myanmar seafood products will change drastically as a result of the withdrawal of sanctions that limited exports to especially the EU and US. Exports of high value raw material like shrimp, barramundi and sea bass, to e.g. Bangladesh, China and Thailand may decrease while exports to the EU, US and e.g. Australia increase. Exports to the US are already increasing steadily and exports to the EU are likely to increase as soon the EU grants Myanmar the GSP status. GSP status will increase the competitiveness in the EU drastically. Although at first this will only benefit capture seafood products, as soon as the residue monitoring plan is implemented it will also benefit the export potential of cultured seafood products.

The improved competitiveness as a result of the GSP status will be an incentive for export companies to apply for EU approval. An increase in the number of EU approved exporters will contribute to a better organised sector because EU requirements do not only apply to the processing establishments but also to quality control and traceability in the supply chain. Also, it will improve the image of Myanmar seafood products abroad as EU requirements increasingly become the international standard.

The benefits of GSP status and the withdrawal of sanctions in the US may function as catalysts for the revitalisation of the shrimp sector because the EU and US are the largest and in terms of profit most favourable market for tropical shrimp.

Although GSP status is very important, also other issues such as the electricity supply of processing establishments and the reduction of export duties need to be addressed to reduce the burden of processing and export companies. If these issues are not addressed it is likely that many exporters that aim to export to high value markets cannot compete with buyers from e.g. China, Bangladesh and Thailand. These buyers currently buy raw material, export it to their countries and re-export it worldwide under more favourable conditions in their countries.

Key insight 4: Market visibility

The availability of market intelligence on seafood products from Myanmar is very limited. At the same time, many exporters in Myanmar seem to have limited access to market intelligence about the EU or US markets. To increase the visibility of Myanmar seafood products in the international market it is crucial that marketing efforts are improved and increased. Although there is a biannual trade show in Yangon¹⁷, there is no strong brand image of Myanmar seafood in the international market. Also, most of the individual export companies do not have websites and do not visit trade shows in overseas markets and therefore are not visible in the

¹⁷ www.myanmarfishery.com

international market. It will be crucial for the seafood sector as a whole and for individual companies to invest in an international marketing strategy. Although the responsibility for export promotion is allocated to the DoF and the MFF, until now their efforts have been limited and their financial and human capital to increase efforts are marginal. Therefore, support from international organisations and donors is required.

Key insight 5: International support needed to level the playing field

In general, international support is needed to level the playing field between the seafood sector in Myanmar and other front-running seafood producing and exporting countries in the Asian region. There are many opportunities for the private sector to invest in. Input supplies, processing and service provision can contribute to the sustainable development and modernisation of the seafood sector in Myanmar. However, further research is needed to identify specific business opportunities.

Appendix 1: List of key informants

U Hnin Oo (shrimp farmer)

Myanmar Fishery Federation
Vice President

U Han Tun (seafood exporter)

Myanmar Fisheries Federation
Executive Vice-President

U Soe Tun (hatchery specialist)

Myanmar Fisheries Federation
Vice President
Myanmar Shrimp Association
Chairman

Dr. Kyaw Tun Myint (shrimp feed expert)

Myanmar Fishery Federation
Secretary
Myanmar Shrimp Association
Vice Chairman

Aung Htay Lin (shrimp farmer)

Shwe Family Trading Co., Ltd.
Director
Myanmar Shrimp Federation
Vice-Chairman

Myat Ko Ko

GREAT International Co., Ltd. (shrimp export company)
Management Assistant, Foreign Relation Section

Myo Nyunt

General Food Technology Industry Co., Ltd. (GFTI) (shrimp export company)
Managing director

Khin Soe Tint

Ministry of Livestock and Fisheries, Department of Fisheries
Fishery Officer

Tin Hla (food safety expert)

Myanmar Fishery Products Processors & Exporters Association
Technical consultant

Joris van Heumen

Esro Seafood
Managing director

Rob Janssen

Amacore
Purchase Officer



CBI

**Myanmar seafood exports
Quick scan of the EU market potential**

Willem van der Pijl
Arie van Duijn (Ed.)

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LEI Wageningen UR

LEI Wageningen UR is the largest Dutch research institute involved in the socio-economics of fisheries and aquaculture. LEI conducts research for the public and private sector to provide input for policy design and insights into business opportunities in the global seafood sector. LEI Wageningen UR invested in this study because it recognises the development potential of the seafood sector in Myanmar and its potential to contribute to food security, employment and private sector and economic development.

Photo cover: Willem van der Pijl

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