Finance for seafood in South East Asia

The business case for sustainability
Please address any comments or queries to: Barbro Døvre, b.dovre@globalcanopy.org

Please cite this work as:

The author gratefully acknowledges the support of Lucy Holmes, Blake Lee-Harwood, Alex Morrice, Tom Bregman, Helen Bellfield, Helen Burley and Chris Hart.

SCRIPT (Soft Commodity Risk Platform, available at www.scriptfinance) is a new freely-available system to help financial institutions understand and mitigate the business risks associated with financing companies in soft commodity supply chains. The platform provides tools and guidance for financial institutions to establish a robust sustainable financing policy and screen their portfolios to determine the companies and issue areas that pose the greatest risk to their institution.

Global Canopy is an innovative environmental organisation that targets the market forces destroying tropical forests. Since 2001, we have been testing new approaches to tackling deforestation, and guiding companies, investors and governments worldwide to think differently about our planet’s forests.

This work is part of the Conservation and Financial Markets Initiative, a collaboration among Ceres, the World Business Council for Sustainable Development, World Wildlife Fund and the Gordon and Betty Moore Foundation that seeks to leverage the power of mainstream financial markets in order to help drive the food sector away from practices that degrade natural ecosystems, particularly the production of commodities such as beef, soy, and farmed and wild-caught seafood that contributes to the loss of forests, grasslands, oceans, mangroves, and other habitats. The initiative is developing mechanisms and incentives that help companies and financial markets make better informed business and capital allocation decisions. For more information see www.moore.org.
South East Asia is projected to produce a quarter of the world’s seafood by 2030\textsuperscript{1}. Global demand for seafood is growing rapidly, driven by burgeoning middle classes and population increases\textsuperscript{2}. Estimates suggest production will have to increase by 70-100% by 2050 to meet this rising demand\textsuperscript{3}.

The two main production systems for seafood, fishing and aquaculture\textsuperscript{4}, can have major environmental and social impacts. Increasing consumer and government awareness of these impacts has stimulated a shift towards the sustainable production of seafood — although there is still much to be done. For financial institutions, this means that there is a need to identify and mitigate the risks that arise from being associated with unsustainable seafood production, and to understand and support the transition to broader sectoral sustainability.

This briefing explains the risks that companies can be exposed to through their production or sourcing of seafood. It explores physical risks, showing how unsustainable practices can compromise the key environmental services that seafood production relies on, and transition risks, which include risks associated with consumer, government and company pressure to shift towards sustainable practices. Transition risks include stricter regulation from both importing and exporting countries, reputational damage from being linked to environmental and social impacts, and lost access to markets which demand sustainable commodities. These risks could lead to lower returns on investment and higher rates of loan default for financial institutions.

\textsuperscript{1}http://pubs.iclarm.net/resource_centre/2017-01.pdf
\textsuperscript{3}http://pubs.iclarm.net/resource_centre/2017-01.pdf
\textsuperscript{4}Aquaculture is the cultivation of fish and other marine animals under controlled conditions. Fisheries refers to the capture of wild fish.
Seafood Supply Chain

Aquaculture and fisheries are the two main production systems for seafood. Aquaculture is the cultivation of fish and other marine animals under controlled conditions. Fisheries refer to the capture of wild fish. The two production systems are interconnected in the seafood supply chain. Aquaculture often relies on fish oil and fish meal from wild caught fish as feed, and both systems feed into the same supply chain, with most traders dealing in both farmed and wild fish.

![Seafood Supply Chain Diagram](image)

**Figure 1:** A simplified representation of the seafood supply chain.

1. Physical risks

Fisheries

The most critical sustainability issues in capture fisheries are overexploitation of fish stocks, use of fishing gear or methods that damage marine habitats and biodiversity, and illegality. There has been a steady decline in commercial fish stocks in recent decades, with 87 percent of the world’s fisheries estimated to be over or fully exploited\(^5\).

Global fish stocks are currently an underperforming asset, with fishing fleets having to travel further for smaller catches because overexploited stocks mean fewer fish. For example, a recent report showed that the average trawler catch along the Thai coast has fallen from 300 kg per hour in 1961 to approximately 20 kg per hour in 2010\(^6\). The Bluefin tuna population is now at only 2-3 percent of what it was in the mid-20th century, returning far less than its full economic potential. Introducing sustainable practices that will allow fisheries to recover will help mitigate the

---

Aquaculture is becoming increasingly important as a food production system to meet human dietary protein needs, with over half of the world’s seafood projected to be farmed instead of caught in the wild. However, irresponsibly managed and inefficient aquaculture operations damage the environment. Poorly managed farms often face reduced harvests and increased operational costs.

Infectious diseases pose one of the most significant threats to aquaculture and are often linked to poor management at a farm or regional level. Globally, it is estimated that disease costs the aquaculture sector US$6 billion in yield loss each year. For shrimp farming, which is the most common type of aquaculture in South East Asia, disease outbreaks can result in a complete loss of stock where there is a total pond die-off. The spread of a new disease, shrimp hemocyte iridescent virus (SHIV), across Asia is set to impact shrimp production rates. In China, shrimp production was expected to increase from 2017 levels, but forecasts that incorporate the impact of SHIV indicate the production rates are likely to have fallen.

Aquaculture is becoming increasingly important as a food production system to meet human dietary protein needs, with over half of the world’s seafood projected to be farmed instead of caught in the wild. However, irresponsibly managed and inefficient aquaculture operations damage the environment. Poorly managed farms often face reduced harvests and increased operational costs.

Anticipated returns on investment from companies in the seafood supply chain rely on the ongoing sustainability of fish stocks. To protect their investments, financial institutions should engage with companies to ensure that fish stocks are responsibly utilised.

Much of the over exploitation and destructive fishing in South East Asia is attributable to illegal, unreported and unregulated (IUU) fishing. IUU fishing contributes to the depletion of fish stocks as the fish catch is not within the regulated quotas, introduced to ensure sustainable populations. Undocumented catch undermines efforts to set, monitor, and keep within scientific limits or quotas. It is therefore essential that financial institutions work with portfolio companies to ensure that their business practices and supply chains are free from IUU fishing.

Aquaculture

risks of smaller catch and lower revenues. One study found that if fishing in the high seas stopped, fishermen would catch more high-value migratory species such as tuna, because populations would have the opportunity to rebound.

Anticipated returns on investment from companies in the seafood supply chain rely on the ongoing sustainability of fish stocks. To protect their investments, financial institutions should engage with companies to ensure that fish stocks are responsibly utilised.

Aquaculture risks of smaller catch and lower revenues. One study found that if fishing in the high seas stopped, fishermen would catch more high-value migratory species such as tuna, because populations would have the opportunity to rebound.

Anticipated returns on investment from companies in the seafood supply chain rely on the ongoing sustainability of fish stocks. To protect their investments, financial institutions should engage with companies to ensure that fish stocks are responsibly utilised.

Aquaculture

Anticipated returns on investment from companies in the seafood supply chain rely on the ongoing sustainability of fish stocks. To protect their investments, financial institutions should engage with companies to ensure that fish stocks are responsibly utilised.

Aquaculture

Aquaculture is becoming increasingly important as a food production system to meet human dietary protein needs, with over half of the world’s seafood projected to be farmed instead of caught in the wild. However, irresponsibly managed and inefficient aquaculture operations damage the environment. Poorly managed farms often face reduced harvests and increased operational costs.

Aquaculture is becoming increasingly important as a food production system to meet human dietary protein needs, with over half of the world’s seafood projected to be farmed instead of caught in the wild. However, irresponsibly managed and inefficient aquaculture operations damage the environment. Poorly managed farms often face reduced harvests and increased operational costs.

Aquaculture is becoming increasingly important as a food production system to meet human dietary protein needs, with over half of the world’s seafood projected to be farmed instead of caught in the wild. However, irresponsibly managed and inefficient aquaculture operations damage the environment. Poorly managed farms often face reduced harvests and increased operational costs.

Aquaculture is becoming increasingly important as a food production system to meet human dietary protein needs, with over half of the world’s seafood projected to be farmed instead of caught in the wild. However, irresponsibly managed and inefficient aquaculture operations damage the environment. Poorly managed farms often face reduced harvests and increased operational costs.
ponds, lack of aeration, or contaminated water. Furthermore, if farms are too close together then disease can rapidly spread from farm to farm. This has historically led to stock die-off across entire regions in South East Asia, highlighting the importance of responsible management not just at individual farm level, but for entire producing regions.

Disease is the single largest cause of economic losses in aquaculture, but poor management of natural resources and inputs can also have a substantial impact on farm level profits. Optimal farm management, including the management of stocking ponds, feeding, monitoring water quality and stock health, can help increase harvest through higher survival rates and growth. Furthermore, efficient use of inputs (see figure 2 overleaf) puts less pressure on natural resources and reduces costs for the farm. For example, a recent study shows that more efficient feed input at shrimp farms would equate to yearly savings of US$85 to US$110 million in Thailand and Vietnam without impacting overall production volume\textsuperscript{12}. 

A fish farm in South East Asia. Image courtesy of Unsplash.

\textsuperscript{12}https://c402277.ssl.cf1.rackcdn.com/publications/1073/files/original/Vietnam_Shrimp_Business_Case_v5.pdf?1497988115
Figure 2: Main inputs in aquaculture, potential environmental consequences and operational impacts at farm level. Inputs and costs vary depending on production system and species farmed.
Both importing and exporting countries have implemented a range of regulations in recent years in response to unsustainable seafood production (see tables 1 and 2). Growing awareness of the significant socio-environmental impacts from fisheries and aquaculture, combined with rising production levels in South East Asia, are likely to increase the rate of regulatory actions going forward. In particular, major issues such as human rights abuses and illegal, unregulated, and unreported (IUU) fishing are high on the political agenda.

### Examples of regulatory changes in importing regions

#### EU yellow card warnings

The EU is taking steps to avoid IUU catch entering the European market by giving red and yellow cards to exporting countries that have not taken the necessary steps to avoid IUU fishing. Thailand received a yellow card warning in 2015, reducing seafood imports to the EU from 476 million euros in 2015 to 426 million euros in 2016. The country must now make changes to avoid a red card from the EU, which will put trade restrictions on fishery products to one of their biggest export markets. Cambodia currently has a red card blocking exports of fresh-caught fish to the European market, and Vietnam and Taiwan have yellow card warnings.

#### US Seafood Import Monitoring Programme (SIMP)

It is estimated that 20-32 percent of all fish imports in the US are illegal and unregulated. As a response, the Seafood Import Monitoring Programme (SIMP) was introduced, requiring importers to provide key traceability data and records from the point of harvest to the point of entry into the US for 13 species that have been identified as particularly vulnerable. The rule entered into force at the beginning of 2018 for most species, with shrimp importers expected to have traceability data in place by 2019.

#### US bans import of forced labour products

In 2016 the US closed a loophole in their trade laws, banning forced labour in US imports. This followed an exposé of links between seafood products in US restaurants and food retailers and forced labour in South East Asia.

---

Table 1: examples of regulatory changes in importing regions regarding seafood products.

---

Examples of regulatory changes in South East Asia

Thailand’s ratification of the Work in Fishing Convention

The Thai government recently ratified the UN Forced Labour Convention and stated that they would follow up by ratifying the C-188 Work in Fishing Convention. Ratification of the C-188 will guarantee workers on fishing vessels certain benefits, such as a minimum of 77 hours of rest per week, protective gear, and one bedroom and a toilet per four workers. This would have a huge impact on the Thai fishing fleet’s 11,000 vessels. The President of Thailand’s National Fisheries Association has said it could destroy the country’s fishing industry, stressing that it would be costly and technically difficult to reconfigure all fishing vessels.  

Indonesia’s crackdown on illegal fishing

Indonesia implemented anti-IUU fishing policies in 2014, resulting in approximately 500 illegal fishing vessels being seized and destroyed in Indonesian waters. A new bill, expected to be passed this year, aims to further crack down on IUU fishing by bringing transparency to the industry and introducing criminal sanctions for the corporate and beneficiary owners of vessels engaged in illegal fishing. The bill includes bans on transshipment of catch, foreign fishing vessels and crews, and foreign investment in the capture fisheries sector.

The agreement of Port State Measures (PSMA)

The agreement of Port State Measures is an international agreement that aims to eliminate illegal fishing by preventing fishing boats engaged in IUU fishing from using ports, and prevent illegal fishery products from reaching national and international markets. Myanmar, Thailand, Indonesia, and Philippines are parties to the agreement which entered into force in 2016.

Table 2: examples of regulatory changes in South East Asia.

---

17 http://www.nationmultimedia.com/detail/national/30354425
Growing awareness of the environmental and social impacts of unsustainable seafood has the potential to negatively impact corporate reputations, damaging the brands of companies and financial institutions associated with unsustainable practices.

In particular, combating illegal fishing is rapidly rising up the political agenda, resulting in stricter regulations and stronger law enforcement. The challenges of monitoring fishing activities and enforcing rules at sea are continually being overcome thanks to new technology and political pressure. Indonesia recently announced a commitment to require electronic fishing logbooks for approximately 15,000 Indonesian fishing vessels by the end of 2019, aiming to achieve more traceability and to prevent IUU fishing\(^21\). Through new innovations, it is becoming easier for companies to ensure legal compliance and sustainability for their seafood supply chains. This means companies who do not make efforts to transition to sustainably and legally-sourced produce are exposed to reputational damage.

In recent years, several companies in both importing and exporting countries have been linked to modern slavery in South East Asian fishing vessels, fish farms, and seafood processing facilities. An investigation by the Associated Press uncovered slave labour in vessels operated by Thai companies and tracked the commodities to some of the biggest food retailers and restaurants in the US\(^22\). Several companies have faced lawsuits as a result, including two major supply chain companies who were accused of knowingly selling prawns linked to slavery, with a legal claim seeking to ban them from selling prawns unless they labelled them as a product of slavery\(^23\). Investors linked to these companies have received substantial criticism for their involvement, and some of the largest retailers in Europe and the US stopped buying seafood commodities from one of these companies after the revelations\(^24\).

Consumer and retailer preferences for sustainably sourced seafood can quickly reduce access to markets for less sustainably sourced supplies. A recent study across 21 countries revealed that seafood consumers rate sustainability to be more important than price and brand, with 72 percent agreeing that consumers should only purchase seafood from sustainable sources\(^25\). Another survey from eight European countries showed that consumers

---

\(^21\)https://ourocean2018.org/?l=our-ocean-commitments
\(^22\)https://apnews.com/b9e0f3c7f650d4ba/8a07f1ed22f90389
\(^23\)https://www.theguardian.com/global-development/2015/aug/19/costco-cp-foods-lawsuit-alleged-slavery-prawn-supply-chain
have a positive attitude towards sustainable products from aquaculture and fisheries. Protection for endangered species, absence of drugs and hormones in aquaculture, and pollution were seen as the most important issues for consumers\textsuperscript{26}.

Consumer demand for sustainable seafood has motivated a number of retailers to sell sustainable seafood\textsuperscript{27}. In Europe and the US, most of the largest retailers have sustainable seafood commitments for buying wild-caught seafood, and the implementation of these commitments may result in reduced access to markets for upstream companies operating unsustainably\textsuperscript{28}. The Marine Stewardship Council (MSC) seafood certification scheme recently announced that it would work with a number of major companies to include 20 percent of global marine catch in their programme by 2020. The Colruyt Group, Kroger, and Sainsbury’s have committed to increase the amount of seafood from sustainable sources to 100 percent by 2020\textsuperscript{29}.

\textsuperscript{26}https://www.tandfonline.com/doi/full/10.1080/08974438.2017.1413611
\textsuperscript{27}https://www.mdpi.com/2071-1050/9/12/2313/pdf
\textsuperscript{29}https://www.msc.org/media-centre/press-releases/eu-our-ocean-2017-20-by-2020-leaders-for-a-living-ocean

\emph{Fishing vessels off the Sabah coast in Malaysia. Image courtesy of Stratman.}
<table>
<thead>
<tr>
<th>Production system</th>
<th>Examples of value loss in unsustainable seafood supply chains</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease in shrimp farms</td>
<td>Disease in the shrimp industry in Thailand severely affected harvest levels due to disease spreading among farms that were too close to each other. Production fell from 630,000 tonnes in 2011 to under 300,000 tonnes in 2014²⁰.</td>
<td>Physical</td>
</tr>
<tr>
<td>Overfishing of tuna</td>
<td>In 2014 the China Tuna Industry Group was exposed by Greenpeace for having understated the environmental risks of harvesting bigeye tuna, which is overfished in the Pacific. The company tried to float on the Hong Kong Stock Exchange, but the IPO was immediately suspended after a letter was received from Greenpeace. The scandal also affected the reputation of Deutsche Bank who was the sole sponsor of the IPO²¹.</td>
<td>Reputational</td>
</tr>
<tr>
<td>Human rights violations</td>
<td>Earlier this year a Taiwanese fishing boat was detained in Cape Town due to poor working conditions under the Work in Fishing Convention. The vessel was fined NT$3.75 million for worker abuse and invalid contracts, and their fishing license was suspended for five months by the Fisheries Agency (FA)²².</td>
<td>Regulatory</td>
</tr>
<tr>
<td>Shrimp imports refused because of antibiotic use</td>
<td>The US Food and Drug Administration (FDA) found that about one third of shrimp and prawn imports from peninsular Malaysia contained antibiotics that are banned for use in food production. The FDA announced that may detain further imports from peninsular Malaysia without physical examination²³.</td>
<td>Market</td>
</tr>
<tr>
<td>Illegal fishing</td>
<td>In Thailand two fishing vessels were recently fined US$7.3 million for fishing without permission, hiring migrant workers without permits, and failing to keep records²⁴.</td>
<td>Regulatory</td>
</tr>
<tr>
<td>Destruction of fishing vessels</td>
<td>Indonesia is cracking down on illegal fishing and, since 2014, has seized and destroyed approximately 500 fishing vessels in Indonesian waters²⁵.</td>
<td>Regulatory</td>
</tr>
</tbody>
</table>

²⁰http://fish-tracker.org/report/  
²²http://www.taipeitimes.com/News/taiwan/archives/2018/10/06/2003701838  
Recommendations

The risks linked to financing the seafood sector are numerous and significant. Both in aquaculture and fisheries, poor management from an environmental and social standpoint increases the possibility of reduced harvests, loss of access to markets due to consumer preferences for sustainability, and risk of reputational damage from being linked to social and environmental impacts. Companies in the seafood sector also face an increased likelihood of exposure to regulatory changes from both exporting and importing countries.

These risks can be managed. Financial institutions can support the transition to a more sustainable and resilient seafood sector by identifying and mitigating key risks in their portfolios, developing and implementing robust sustainable seafood policies and engaging with companies in their portfolio to make sure that they are effectively managing their risks. SCRIPT (Soft Commodity Risk Platform) has developed a new financial institution expectations guide that provides support for financial institutions to engage seafood companies on environmental and social risks.

SCRIPT has also launched a new policy benchmarking tool for seafood. The tool and guidance materials supports financial institutions in understanding the strength of their policies assessed against 25 peers across South East Asia, and makes recommendations for stronger policies towards best practice. The tool can be accessed at script.finance.