PRIME Case Study Report

Indonesia
Fishery and Aquaculture

Fishermen sorting tuna in Indonesia

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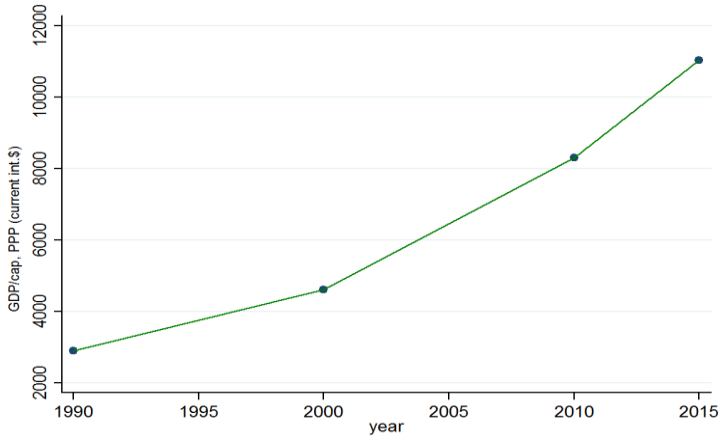
1 --PART A ---- THE INTERVENTION

1.1 Country dynamics

1.1.1 National economic dynamics

Indonesia has the largest economy in South-East Asia. It has undergone significant economic growth in the past decades. Between 1990 and 2015 the GDP/capita nearly quadrupled from around $4.000 to $11.000. This remarkable growth has been accompanied with a corresponding drop in poverty rates, as the fraction of the population living on a daily income of less than $3.5 declined from 90% in 1980 to around 35% in 2015.

Graph 1: Indonesia GDP/capita (PPP), World Bank data



Furthermore, Indonesia witnessed a strong population growth, and increase in life expectancy. The economic growth was mainly driven by the commodities and services sectors, whereas the contribution of agriculture to the economy strongly declined. Furthermore, the share of GDP generated through trade increased substantially, from around 25% in 1960 to over 40% in 2015.

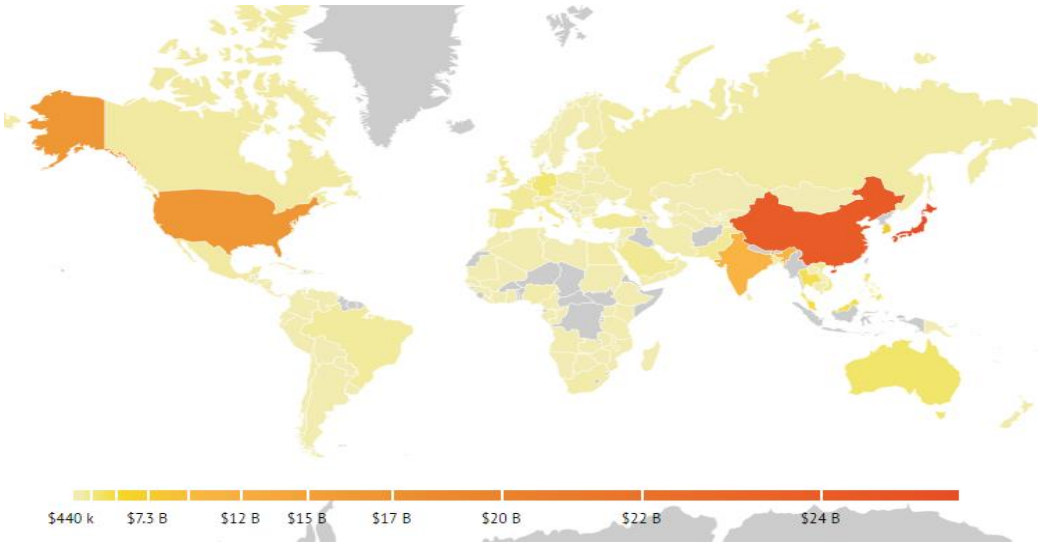
Table 1: Indonesia economy overview[1]

	1960	1970	1980	1990	2000	2010	2015
Population, total (million)	87.79	114.83	147.49	181.44	211.54	241.61	257.56
Life expectancy at birth, total (years)	48.64	54.53	59.61	63.26	66.25	68.15	
GDP per capita, PPP (current int.$)				2894	4602	8294	11035
Poverty headcount at $3.10/day ('11 PPP)			90.58	85.32	78.52	46.36	36.44
Services, etc., value added (% of GDP)	33.5	36.37	34.31	41.47	38.47	40.67	43.32
Industry, value added (% of GDP)	15.05	18.69	41.72	39.12	45.93	42.78	40.01
Manufacturing, value added (% of GDP)	9.22	10.29	12.99	20.66	27.75	22.04	20.84
Agriculture, value added (% of GDP)	51.46	44.94	23.97	19.41	15.6	13.93	13.52
Trade (% of GDP)	26.94	28.42	54.39	49.06	71.44	46.7	41.94

[1] Source: World Bank, http://data.worldbank.org/country/indonesia

Indonesia has a market based economy and some of the largest sectors include manufacturing, agriculture and trade and tourism (see table 1). An estimated 97% of employment in Indonesia is created by micro, small and medium sized enterprises (Mourougane, 2012). However, only 57% of value-added is created by these MSME's. This suggests there is potential for productivity-enhancing support to these firms. Trade represents approximately 25% of Indonesian GDP. Indonesia's exports are dominated by raw resources, such as oils, minerals and fuels, which account for 30% of total exports. Other significant export classes include: vegetable products, machinery/electrical equipment, textiles and plastics. For the Indonesian economy, animal and food products (incl. fish) account for circa 1.5% of total exports in 2014. Indonesia conducts most of its trade with its regional partners (see Figure 2), with East Asia being the largest trade partner, and Western Europe accounting for circa $12.5B (~7% of total) of exports, of which $3.2B (2%) to the Netherlands.

Figure 2: Indonesia main export destinations[2]



1.1.2 Overall business environment

According to the World Bank Doing Business report Indonesia ranks 109th out of 189 countries worldwide in terms of the ease of doing business. Particular points where Indonesia scores low in this index are (i) the ease of starting a business, (ii) tax regulation (iii) contract enforcement, and (iv): registration of property. Domains where the Indonesia business environment scores relatively well are (i) access to electricity, (ii) access credit, (iii) resolving of insolvency[3]. In terms of its business sector, two thirds of firms in the Indonesian economy surveyed in the 2015 World Bank Enterprise Survey are small or medium sized enterprises.

[2] Source: Atlas of Economic Complexity: http://atlas.cid.harvard.edu/
[3] Bank Doing Business report: http://www.doingbusiness.org/data/exploreeconomies/indonesia/

1.1.3 General business support organisations

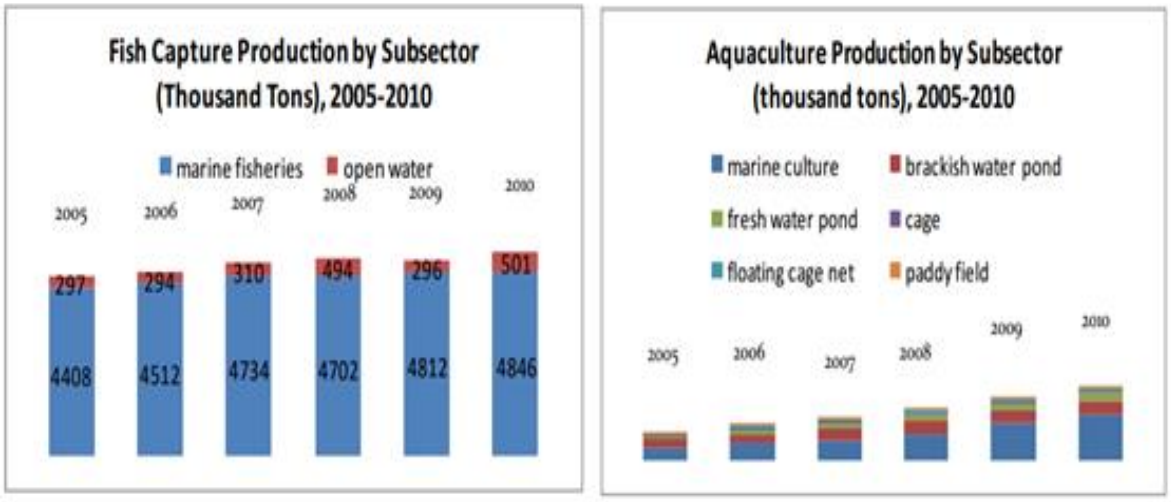
There are various programs in place in Indonesia to support SME. After the Suharto period (post 1998) the new government implemented a range of *demand driven* SME support programs. One key focus point in government policy towards SME support has been the encouragement of the formation of SME clusters to reach economies of scale. Aside from the Indonesian government, other relevant actors in SME support are the multilateral organizations such as World Bank, Asian Development Bank, and national aid organizations such as USAID and various Dutch organizations including CBI, PUM and the Dutch embassy.

1.2 Context of the sector

1.2.1 Market dynamics

Indonesia has a significant fishery sector. In 2012 the sector accounted for an approximated 21% of Indonesia's agricultural economy and 3% of GDP (FAO, 2012)[4] and provided an estimated 5 million people and their dependents with incomes (Indonesian government, 2011)[5]. Approximately two thirds of the total of 8.4 million tons produced in 2011 derived from fishery and the remaining one third from aquaculture (FAO, 2012). Over 95% of the fishery production originates from artisanal fishermen (ibid). Especially the aquaculture sector has been growing strongly in the past years (see Figure 3).

Figure 3: Production Trends in Fishery and Aquaculture[6]



Key challenges and trends in the Indonesian fishery sector include[7]: (i) overfishing in open waters and accompanying shift to aquaculture, (ii) technological advances in aquaculture (iii) development of marine culture (cultivation of marine organisms in open sea), (iv) increased competition from fishery and aquaculture sectors in other emerging economies

[4] FAO: http://www.fao.org/news/story/en/item/176776/icode/
[5] Indonesian Government, Fishery Industry at a Glance (2011): http://www.bkpm.go.id/img/file/fisheries.pdf
[6] Ministry of Marine Affairs and Fishery
[7] Indonesian Government: http://www.bkpm.go.id/img/file/fisheries.pdf , FAO: http://www.fao.org/fishery/countrysector/naso_indonesia/en

such as Thailand and Vietnam, (v) stricter requirements for labelling and packaging produce for export, (vi) competition from other sources of protein such as chicken and beef. Linked to these developments is the trend of declining availability of raw materials in the fishery sector, as indicated by CBI's sector exports.

In regard to these challenges it can be noted that the impacts of the various support programs for the fishery sector are not only pertaining to increased production, but rather to more sustainable production. For this reason, support to the fishery sector might not result in more production and employment creation in the short-run, but by making the firms and sector as a whole more sustainable; the support can contribute to the preservation of a sustainable level of production and employment within the fishery sector over the long run. Furthermore, the shift from fishery to aquaculture is an interesting development in regards to the productivity-sustainability debate.

1.2.2 Sector policies and support programmes

After the 2014 elections, a new government was installed that has emphasised the importance of the fishery and aquaculture sector in Indonesia. Current president Widodo has declared that Indonesia should become a maritime axis and he has implemented a number of policies in place that strongly affect that fishery sector. The approach towards fishery of the current government is based on three self-proclaimed pillars: Sovereignty, Sustainability and Prosperity. The first pillar demonstrates the emphasis that the government gives to keeping the fishery sector in Indonesian hands. One of the major consequences of this philosophy is the implementation of a policy that prohibits foreigners to own any fishing vessels. Foreigners are still allowed to own fish producing factories or companies in aquaculture.

The new Minister of Maritime Affairs and Fisheries (MMAF), Susi Pudjiastuti, has implemented number of policies with the objective to make the fishery sector more sustainable, while promoting nationalization of the industry. These policies had some notable effects on the SME's that are directly or indirectly involved in the industry. During the second field trip in 2016 strikes and protests were occurring across Java, mainly by fishermen and food producers disagreeing with the policies. One policy change is that medium to large vessels are only allowed in the sea if they have acquired a permit. However, acquiring this permit appears to be quite a tedious and lengthy process, resulting in the fact that many medium/large size vessels are currently unable to work. Second, net-fishing has become restricted; making many companies rely on line-fishing only. Third, each day all operating vessels will have to declare the amount of fish they caught. Also, this implies that all vessels will have to come back to shore every day.

The SME's that were interviewed during the field visit in 2016 all stated their business was affected by these policies. One of the most common complaints concerned the availability of raw materials – fish and seafood. As one of the interviewee stated:

> *Currently we are really having trouble getting tuna and red snapper, because of the new rules of the Ministry. Now big boats are no longer licensed to catch fish, there is not enough supply. But the other fish are still doing okay. Luckily, I have over ten items. So I am still healthy. But some of my friends who are only doing tuna – they really have problems. My supply already dropped by 20-25% right now. But I try to recover by having a variety of items.*

Hence, one effect of these policies is lack of supply for the fish processing companies. As a result, some of them started importing fish from other countries, most notably from the Middle East. Also, although most of the companies are affected by these policies, some of them also see some positive effects:

> *For me, we do low-line fishing – which is quite a sustainable way of fishing. Hence we are not affected negatively by the government policies. (…) Because of the fishing quotas, we now have better catching. The years after implementation we didn't see much affect, but this year the fish population appears to have grown, giving us better catching.*

The MMAF provides human resource development and export support to SME's involved in aquaculture and fishery. Also, they provide booths to SME's in international seafood expositions, but – contrary to the support of CBI – SME's that want to make use of this service will have to cover their own expenses. MMAF is also working on a certificate for Indonesian Aquaculture Practice (INDOGAP). SME's in aquaculture are stimulated to obtain a certificate by participating in the training that aims to increase their productivity and competitiveness.

1.2.3 Sectoral business support organisations

Various organizations work on addressing several key challenges and opportunities in the fishery and aquaculture sector in Indonesia: (i) making production more sustainable for the long-run, e.g. by reducing overfishing (ii) raising the productivity of small-scale fishers and aquaculture businesses through adoption of better technologies, (iii) making the fishery and aquaculture sector more competitive in the export market, e.g. by helping exporting firms adopt standards required for entry in foreign markets. A key stakeholder in the specific support to SMEs in the fishery and aquaculture sector is the Ministry of Marine Affairs and Fishery (MMAF). MMAF provides the legal framework for firms in this sector, including the setting of fishing quota and the provision of fishing licenses.

Furthermore, the Ministry of Trade is involved in supporting domestic companies in identifying and accessing foreign markets, through the provision of information and advisory services. In addition, the Ministry of Cooperatives and SMEs provides support to the SME sector at large, including fishery and aquaculture, including a broad range of policy objectives such as improving firms' access to finance, streamlining the business environment and developing human resources through education and training programs. Multilateral stakeholders include the World Bank, IFC and the United Nations.

There are different initiatives that receive support from the Dutch government. First, there is the Seafood Service Centre in Surabaya. This is an initiative of the MMAF and CBI, with the objective to increase the knowledge of seafood processing SME's about exporting to Europe. They offer services and trainings to SME's in the food processing business. Also, two other initiatives were mentioned by the Netherlands Embassy, that are relevant with respect to the fishery sector: Seafood Trade Intelligence (STIP) – a portal that lists all seafood companies that fulfil a set of sustainability requirements - and the Seafood Stewardship Index – a round table initiative to enhance sustainability in the sector. Both are international initiatives on sustainability and are not limited to Indonesia only.

One last organisation worth mentioning is AP5I, a membership organisation for fisheries and fish processing companies. They provide information and training sessions to their members to enhance the fishing industry. There appears to be some overlap in their goals and objectives with the Seafood Service Centre. The current director of the SSC was also the former director of the AP5I. A difference is that AP5I is a membership organisation. CBI has coordinated some activities in the past with AP5I. There are similar initiatives as CBI active in Java. One of them is the Swiss SIPPO, which in the past implemented programs specifically for the sea-weed sector that were somewhat similar to CBI, although less intensive, and which also provided firms with opportunity to receive loans or grants.

1.3 Characteristics of CBI and PUM support

1.3.1 Support and program activities

CBI

The activities of CBI aim to promote the exports of Indonesian firms towards the European market. It is worth noting here that in the face of international macro-economic trends, this ambition could mean either to increase exports, but also to keep exports constant in a context where market forces are reducing exports and/or shifting exports towards other region. To achieve this goal, CBI uses a twofold approach, whereby SME's are directly supported through so-called export coaching programs (ECP) and indirectly through programs implemented by business sector organizations (BSOs) which are supported by CBI

through the organization of strategic conferences, training, coaching and joint development of tailor-made market information. As part of the BSO component of the program, CBI works closely with the Indonesian Ministry of Marine Affairs and Fishery (MoMAF), which it has supported in developing export services to SME's, including participation in trade fairs. Furthermore, CBI works together with MoMAF in the international branding of the fishery and seafood sector, for example through the development of the indonesia-seafoods.com. As further components of the BSO part of its activities, CBI supports and works together with the "Surabaya Seafood Service Centre" (SSSC) in the fishery and aquaculture sector in Indonesia, for example through the and with the organization AP5I in providing a platform for exporters and importers.

As for the ECP component of the program, CBI first provides assistance in the development of a company improvement plan through an initial audit. Subsequently, firms are supported by various components including export marketing training and support to market entry, for example through participation in international trade fairs and buying missions. In addition, the supported SME's receive on-site consultancy, distance coaching, market information, technical assistance in the field of business development, certification and production improvement. The latest CBI program in this fishery sector in Indonesia was started in 2012, and is finalizing in 2017. According to CBI's 2015 program progress report, the total budget for the program was approximately € 880.000. The companies supported by CBI tend to be larger than those supported by PUM. Data from the CBI monitoring and evaluation system indicate that the CBI beneficiaries in the fishery and aquaculture sector in Indonesia have on average around 300 employees, in the 100-700 range, mostly processing factories. Given the differences between the types of firms targeted – i.e. PUM focusing on smaller fisheries and aquaculture production firms and CBI focusing on larger fish processing factories with exporting capacity – the level of cooperation on the SME level is hitherto fairly limited. No examples of SMEs that had been supported by both PUM and CBI were encountered. The key sectors in Indonesia on which CBI has focused in the past years are (i) fishery, (ii) home decoration & textiles, (iii) tourism. New focus sectors for CBI are (iv) food ingredients and (v) engineering. Again, PUM has a broader range of sectors which it has served in the past years.

PUM

PUM and CBI both provide distinct contributions to the enabling environment for the fishery and aquaculture sector in Indonesia. PUM interventions focus on broad range of issues with SMEs in the sector, such as usage of improved fish breeding technologies and water filtration systems in aquaculture. CBI supports to enter the foreign markets with produce from the sector. The focus of this support is on adoption of export standards as well as marketing and sales to better position Indonesian firms in the export market. Given the sectoral focus of the CBI activities there is close cooperation with the Ministry of Marine Affairs and Fishery. PUM activities have been more independent of other stakeholders in

the sector. In the period 2010-2012 PUM provided support to circa 25 SMEs in the fishery and aquaculture sector. Application data and feedback provided by firms and PUM staff over the period 2013-2014 provide an: On average, fishery and aquaculture SMEs supported by PUM are between 5 and 25 years old, have between 40 and 130 employees and sales of circa €2 million/year. Around 60% of PUM beneficiaries in this sector are male owned.

1.3.1 Intervention logic

To analyse the effects of CBI and PUM support in the Indonesian fishery and aquaculture sector, we refined the general intervention logic (changes in knowledge – changes in business practices – change in business performance – development impact) in more concrete outcomes (see Figure 4). In the intervention logic, the CBI and PUM support is summarised in two main pathways that ultimately result in sector-improvements: (i) direct support to firms in the form of advisory services and trainings and (ii) indirect support via sector-level organizations, the so-called "business support organizations" (BSOs). It should be noted that the support to BSO's is larger components of CBI's activities and that PUM mainly focuses on direct support to SMEs.

i) First of all, the CBI modules are expected to help firms in the development and implementation of a firm specific Export-Marketing Plan (EMP), which in turn should promote the firm's exports. For the PUM context, the expert missions are expected to build capacity within the supported firms, through a diverse set of topics that can be addressed, such as technical issues, marketing and management.

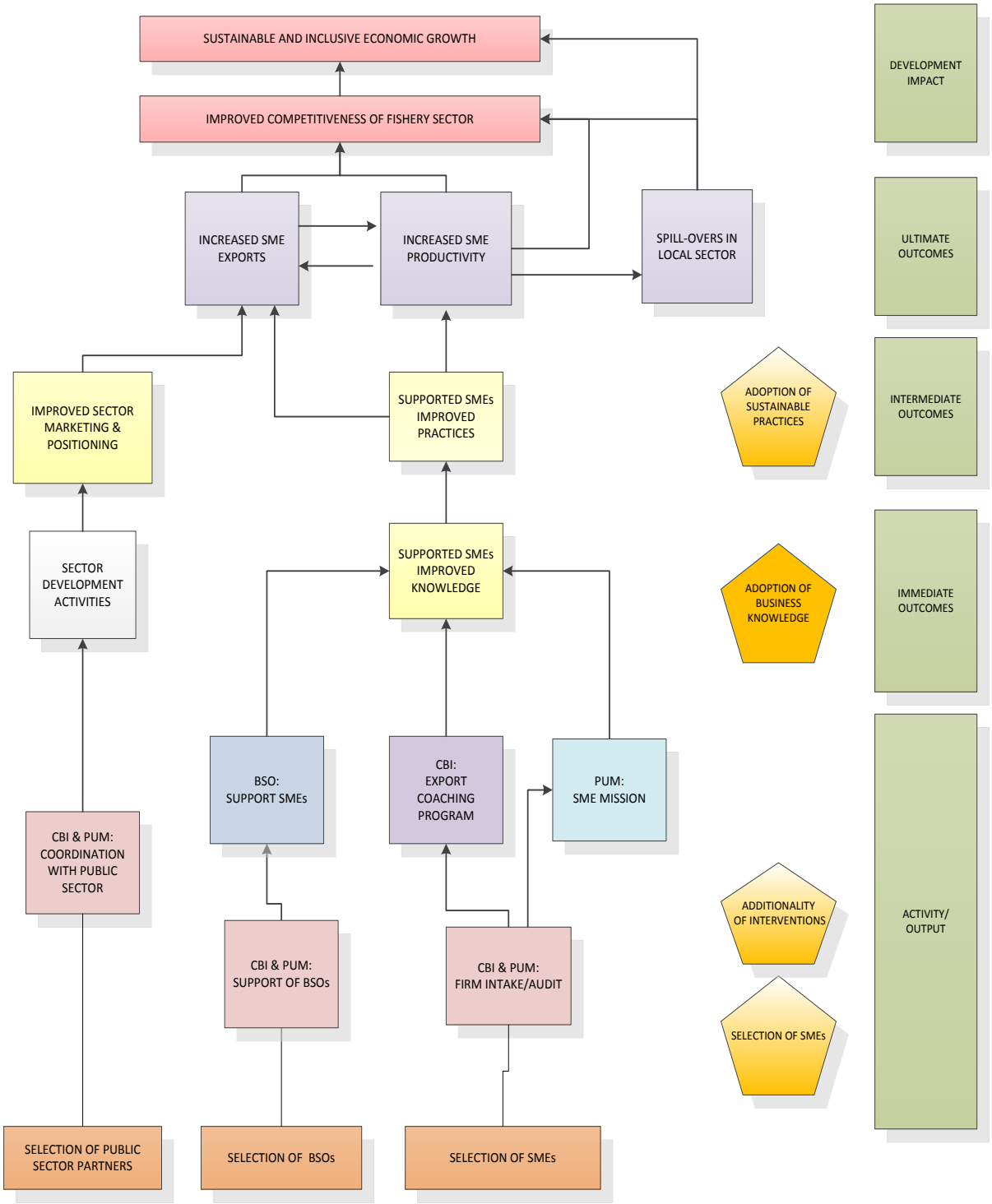
ii) Secondly, the various types of support to BSO of CBI (such as to the stakeholder platforms) eventually results in an increased amount, diversity and quality of end-products. This should directly result in an increased awareness of Indonesia as a competitive exporter of fishery products. Combined with the increased competitiveness of competent exporters this should ultimately result increased export competiveness of the Indonesian fishery sector ultimately sustainable an inclusive growth.

In the intervention logic the PUM support is mainly concentrated in the pathway on the right side: from the expert support mission to a more productive fishery and aquaculture sector at the ultimate outcome level. Once a firm is linked to PUM, a firm defines the needs or problems to be solved. The firm is than matched to the right expert. At the immediate outcome level this should result in the support of the right person in the firm at the right time, and by the right expert.

At the intermediate outcome level the CBI intervention is expected to result in an increase in the number of competent exporters in the fishery sector. Combined with other ultimate outcomes this should result in increased (export) competiveness of the fishery sector in Indonesia and ultimately sustainable and inclusive growth. For the PUM context, the

expected intermediate effect is improved business practices, such as the adoption of new marketing strategies or a more efficient production process. It is important to note that such knowledge gains can also spill-over to non-supported firms. This is true for PUM as well as CBI support.

Figure 4: Intervention Logic of CBI and PUM interventions



1.3.3 Key assumptions

The intervention logic of CBI's and PUM's activities in the aquaculture and fishery sector in Indonesia provided several focus areas for this case study. Firstly, given that both programs target specific segments of firms, the selection mechanisms which are used to recruit the most suitable firms are critical to the success of the program. In this case study, we tried to shed more light on the ways in which firms are selected, and the various advantages and disadvantages of current selection mechanisms.

Secondly, the case study aims to shed light on better understanding *how* the CBI and PUM support as provided to SME's – both directly and indirectly via BSO's – contributes to a growth of knowledge and practices. The focus ties to one of the key assumptions in both CBI's and PUM's theory of change, namely that provision of advisory services, trainings and coaching will contribute to export growth for CBI supported firms, and productivity growth in PUM supported firms. The interventions work by building knowledge and skills of entrepreneurs, as well as by linking firms to foreign markets in the case of CBI.

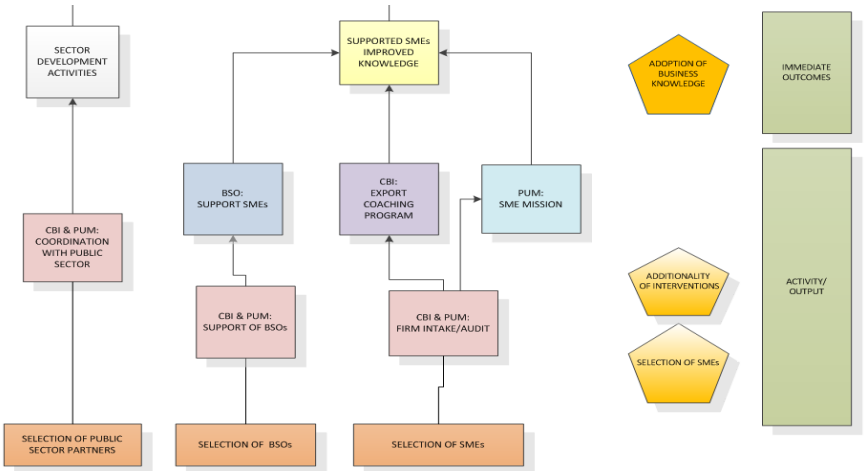
It is to be noted here that the focus on this pathway differs for CBI and PUM, whereas in the former case the various trainings and courses are more geared towards enabling firms to enter the international market, the PUM support is more diverse in terms of its focus, ranging from marketing to technical to financial guidance. By means of the interviews that were conducted, this case study will shed more light on exactly which knowledge gaps the various intervention modules have addressed, and how contextual factors, such as the firms' access to (financial) resources to implement newly obtained insights, shape the effectiveness of the interventions.

Thirdly, as fishery and aquaculture operations are by definitions intertwined with issues regarding environmental sustainability, another question is to what extent, and how, the CBI and PUM activities contributed to growing awareness of- and adherence to standards of sustainable production, as well as exports to markets in which high sustainability standards apply, such as the European market. Furthermore, we investigate how technical advice – in the case of PUM support – can contribute to more eco-friendly production in the aquaculture sector, and how knowledge obtained by companies regarding these aspects can be disseminated to non-supporting firms, thus contributing to positive spillovers of the program.

2 ---PART B ---- THE EFFECTS

2.1 Intended effects

2.1.1 Immediate outcomes (knowledge)



One of the most crucial impressions from the interviews is that most CBI beneficiaries perceive the program to have contributed to their knowledge on exporting to the European markets. Not only do the interviewed entrepreneurs mention an increased knowledge of the criteria that need to be fulfilled in order to be able to export fish products to Europe, they also claim to have a better understanding of the European market as a whole. The respondents show an increased understanding of the preferences and demand in different European countries. Some of the respondents mention that they often use the database on the CBI website to find background information on different countries. Also the training sessions have largely contributed to this knowledge.

Another domain of impact about which the CBI beneficiaries report is the expansion of their network of importers in the EU market through the participation in export fairs and CBI training in marketing and sales. Expanding this network gives producers better chances to export their products to the buyers which give them the best prices. Various producers highlighted that CBI not only increased their network of importers in Europe, but also taught them how to distinguish the valuable importers from the less valuable ones. A fish producing company in Surabaya explains:

> *I have a good network now. I have good links. This is mainly because of CBI. I have been coming to Brussels 3 times in a row. Now I know which companies are good, which will be good customers for our products. We have also learned to differentiate between good and bad companies. The CBI trainings taught me about this. This information is expensive.*

The respondents mentioned the value of participating in the annual Seafood Show in Brussels. Most of the respondents regarded the seafood shows as the ideal place to connect

with potential importers. The advantage of attending the annual seafood show in Brussels as a CBI participant is best illustrated by one of our respondents:

> *If you do not join CBI and you go to the Europe seafood show, you are separated from the Indonesian booth. If you go there you go alone. But remember, there are thousands of booths there. Thousand companies going there. Will your company be in the list of important visitors? Maybe not. And you will only have three days. After the first day all important people will already be gone, gone home. So it is a much better option to join CBI and get to the Indonesian booth. By joining CBI you will at least become part of the Indonesian booth – and have good exposure.*

An interesting point to note here is that one exporter mentioned that although making these connections was very useful, he still perceived a substantial risk of making the above-mentioned investments needed for obtaining the EU export license without having the guarantee of getting orders from the importers in Europe. In light of this, he referred to Japanese support, where importers would pre-finance the required investments needed for exporting to Japan via a pre-agreed contract, hence reducing the investment risk for the producers in Java.

The CBI recipients also mentioned that the intervention increased their network of colleagues in the sector. One respondent claimed

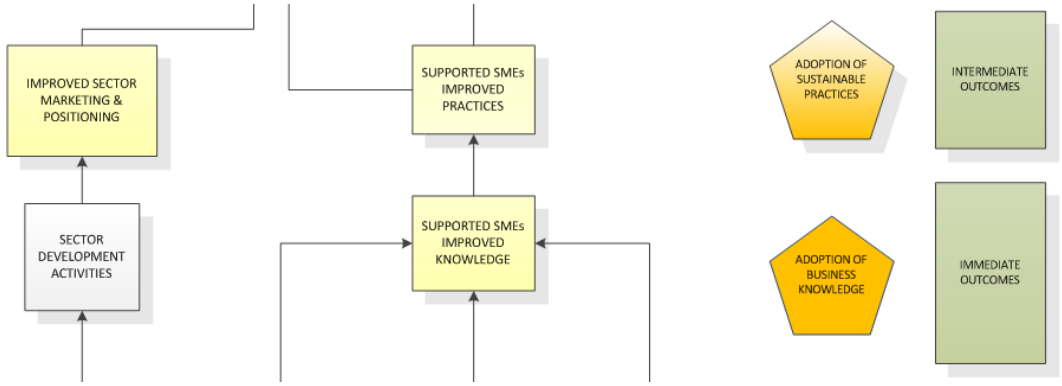
> *"Sometimes we don't get information when we attend the training on certain topics, but we get the information when I talk to the other companies in the program. They often have the same problems as me. When we talk – that is another way to get market intelligence."*

The CBI participants value this network and make use of it when necessary. One respondent mentioned that one of his fellow co-CBI participants once helped him by redirecting an order from an importer to him, since he could not deliver the specific species. Trainings and consult that appeared to be very valuable for most of the respondents were those that focussed on process optimization. This topic came up spontaneously during different interviews when discussing the positive impacts of both CBI as PUM interventions. These sessions were generally considered very valuable, and most of the SME's we interviewed put them into practice.

We encountered a number of PUM beneficiaries that received some unrealistic advice. One PUM beneficiary of a small fish processing firm (with less than fifteen employees) received a PUM expert in 2016, hoping that this person could help him improving his sales. The PUM export recommended him to prepare for exporting to Europe. He advised the firm owner to start building a factory and implement the production process necessary for exporting to Europe. Regarding the activities, size and the capital of the particular firm, building a new factory was unrealistic. Hence the advice was perceived to be of limited use for the firm

owner. Another PUM beneficiary (of a small shrimp farm in Sidartho), who received PUM experts in 2015 and 2016, was also quite disappointed about the visits. He couldn't think of any benefit that he gained from the visits. It has to be mentioned that it was the local government of Sidartho that applied for the particular experts, which might explain why the experts were not that useful for the firms.

2.1.2 Intermediate outcomes (business practices)



The CBI interventions seem to have had a big impact on the knowledge of the firms about the requirements for exporting. This was specifically noted during the interviews with beneficiaries during the first field visit. One example that was mentioned was the knowledge on how to implement various hygienic measures. Firms were advised that in order to comply with the European export standards, employees that have to wear masks and gloves and clean their shoes in disinfectant fluid before entering and leaving the factory. The participating factory owners learned that implementing these measures was essential for obtaining the licenses needed to export to the European market and had hence implemented them, which resulted in changed practices amongst the employees (e.g. the hand-washing).

Fulfilling all requirements to export to the European market requires a financial investment. However, after these investments are done, exporting to Europe is not as difficult as most of the firms expected before they enrolled in the CBI program. As one participant put it:

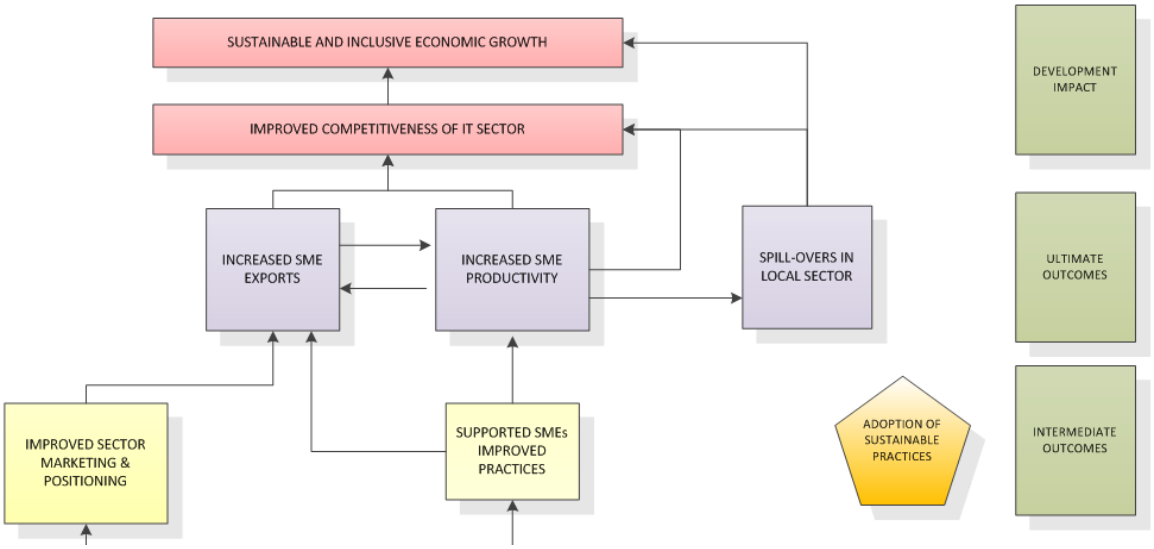
> *Exporting to Europe is actually really easy. As long as you have right products and you export regularly. The problem is that if you don't export to Europe regularly, you keep changing your process. For European standards, you need to keep checking and testing your products regularly. You need the health certificate for example. This means you cannot decide overnight to start exporting a certain type of fish. Also you need the catch certificate.*

As to CBI's support of BSO's, the respondents provided mixed feedback. According to the interview with the Ministry of Marine Affairs and Fishery (MoMAF) the support of CBI in developing a sector branding plan – including the development of a logo and a slogan - had

been very useful in international trade fairs. However, the ministry also indicated that according to them the activities implemented by the Surabaya Seafood Service Centre (SSSC) – another BSO with which CBI works – are less well organized and that its top management is not focused on the activities of the centre as they have other occupations. However, according to the SSSC interviewee, the support from CBI has been perceived as useful in developing seminar materials that the centre can use to share with its members. As for AP5I, another BSO that serves as a platform for exporters and importers, and with which CBI has had more limited interaction according to its progress reports, the interviewee that the support from CBI in developing market intelligence has been useful, but that they could also benefit from more CBI inputs regarding technical requirements for exporting, and promotional and marketing strategies.

The effect of the PUM intervention on business practices of the SME's is less clear. It appears that for the larger SME's (> 75 employees) the advice of the PUM experts was very valuable. We spoke to different company directors that received advice – often related to optimizing their production process – and implemented it. On the other hand, the small SME that we interviewed – those with 20 employees or less – generally found the advice less useful. We talked to one small enterprise – a very small company processing fish snacks for the local market – who was happy with the advice she received with respect to marketing. She learned from her expert how to improve the packaging of her product. Although she found this useful, she also mentioned that much of the other advice she received – mostly about how to grow the company and start exporting to Europe - was of little practical use to her. We found similar stories at other small SME's.

2.1.3 Ultimate outcomes (business performance)



Administrative data suggest that the EU exports of CBI-supported firms have increased considerably in the period 2014-16, although this growth is largely driven by growing exports for two firms (ID=1 and ID=9):

Figure 4: CBI firms exports to EU

	Annual exports to EU, per firm (*1000E)		
Firm ID	*year=2014*	*year=2015*	*year=2016*
1	364.16	1382.00	24054.95
2	0.00	18.35	0.00
3	62.25	292.70	n/a[8]
4	39.00	186.00	107.57
5	780.00	1100.00	430.00
6	54.30	721.30	699.66
7	0.00	118.00	n/a
8	526.72	522.94	150.07
9	2817.00	3721.50	7000.00
10	409.42	0.00	200.00
11	0.00	0.00	0.00
Average	459.35	732.98	3626.92

The CBI beneficiaries that were interviewed were all very satisfied with the CBI support. Generally, they report that their exports have increased and are now more diversified. Moreover, they all report an increased sale. One of the beneficiaries was so content with the CBI support, that he claims that it saved his company:

> *Back in 2009 our company was almost bankrupt. The reason we are back on track now is largely because of the CBI program. Just compare: In 2009 we only had 120 employees. Now we are back to 500. Without CBI we wouldn't have gotten here. We were dead in 2009.*

What is unexpected is however, that the increased sales are rarely regarded as a direct result of exports to Europe. Most companies claim that as a result of CBI report they have optimized and improved their work processes, have extended their network of potential buyers, and have made considerable investments in their companies to the European standards. However, most of them have not grown because of an increased export to Europe. As one of the beneficiaries explained:

> *I don't know whether I achieved what the program intended to, but I doubled my sales in the second year of participation, even though this was in the US. But after the training, the networking and everything my sales have doubled. I think at 2012 we were at 3.9 m a year and in 2013 over 7m. And then the following year it was around 9.5.*

[8] Data not available from certified results

Since the prices for fish products in Europe have been very low, various interviewed firms do not report increased exports to Europe. Their exports have increased however, but mostly to countries that offer better prices for the same products – at the moment Japan and US.

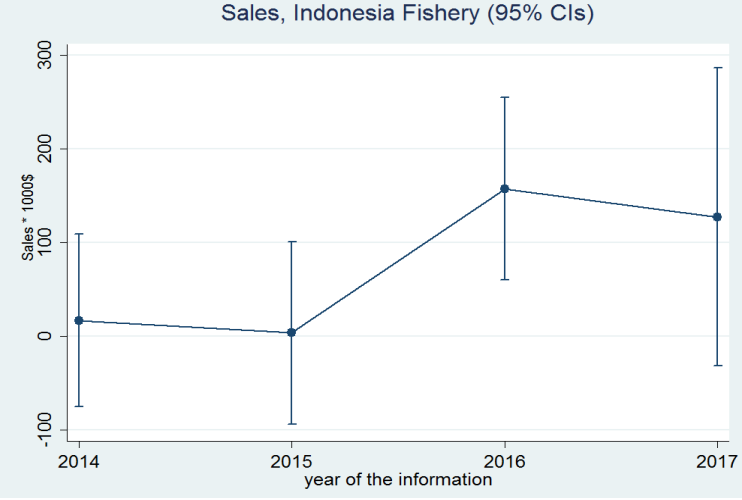
Performance of PUM beneficiaries

With regards to the outcomes of the PUM intervention, our findings are mixed. During the first field visit in 2014 we found that the beneficiaries are generally positive about the outcomes regarding business performance. Most hold the perception that the support and subsequent changes in business practices have enabled them to increase their productivity and reach higher turnover and profits. One example is the narrative of a fish-breeding firm that learned improved techniques to reduce mortality rates for young fish. Learning these techniques, which included the use of certain antibiotics, which reportedly enabled them to increase the total production of fish and subsequently increase the profits.

The findings from the second field visit were more mixed. During this visit five new PUM beneficiaries were interviewed. Only one of them reported an increase in profit as a result of the PUM intervention. This *kroepoek* factory, which has been exporting *kroepoek* to the Netherlands since the early 1970s, received management support from a PUM expert in 2015. The PUM expert gave him advice for optimizing his production process. The owner changed his production process and reorganized to workers accordingly. As a result, he achieved a higher productivity with less people.

In turn, when considering the administrative data from PUM, we observe that the overall sales of PUM-supported firms in the fishery and aquaculture sector in Indonesia has increased in period 2014-17, although there is a large margin of error in these estimates due to the small number of observations for each year[9].

Graph 2: Sales of PUM-supported firms in 2014-17



[9] The total number of observations regarding annual sales for PUM-supported firms in the fishery sector in Indonesia in the period 2014-17 is N=28, with approximately N=7 observations per year.

During both field visits it was observed that neither the PUM nor the CBI interventions had the positive impact on the employment in the beneficiary SMEs that was predicted. There are several explanations for this. First, most PUM beneficiaries are involved in aquaculture. Aquaculture is a fairly low-labour intensive activity and the implementation of the advice of PUM experts translates to higher productivity rather than expansion and hiring of new staff. Given the relatively small average number of employees in the PUM beneficiary SMEs, it might also be that the threshold to hire an extra person is fairly large. With regards to fish production, labour intensity seems to differ between firms, for example high in shrimp processing and lower in fish processing: These differences in labour intensity and level of use of existing production capacity moderate the employment effects of increased production.

A second explanation is that the assumption that an increase in revenue or profit will lead to an increase in employment appears to be incorrect. The most satisfied beneficiaries of either CBI or PUM support were most happy with consult on process optimization. If process optimization is successful it results in higher profits because of lower costs – mostly as result in a cut in the employees in the SME.

Last, the assumption that an increase in production might result in extra employment is also contested. One of the firms that received a PUM consultant in 2013 notes that increases in production would not result in extra employment because the staff is currently not working full capacity. In other words, since the existing staff is currently not working at full productivity, extra work generated through the increased exports can be performed within the existing staffing and no new staff has to be hired. Yet another firm noticed that profit increases may lead to employment reduction as it may enable the firm to buy machines which can automate some the work:

> *"No, we didn't hire more employees in the past years. On the contrary, after the CBI training and everything, we bought all the main machines. Previously we had around 2200 workers, now only 1100. It is a way to save costs: in Indonesia, every year we have to increase the salary between 6-8%- mandatory."*

2.1.4 Economic spill-over effects in the sector

PUM

One story illustrates well the spill-over effects that PUM can have. One SME which had received PUM advice on better fish breeding practices had taken the initiative to share this newly acquired knowledge with other small firms & local fish farmers in the region, without charging fees. During the visit to this SME several of these fish farmers attended the fish farm of the PUM beneficiary to receive advice from the PUM beneficiary. In addition, this PUM beneficiary had engaged in the remunerated provision of consulting services to a

larger fish farm in the region. It can be noted that this particular entrepreneur was a Dutch expat who had migrated to Indonesia to start this business. This person furthermore had a close connection with the PUM expert who had provided the training. These characteristics seemed to contribute to the positive spill-over effects.

CBI

All beneficiaries go through a similar track. Advice is provided for a substantial part in group training sessions where respondents have the opportunity to exchange information with each other. This aspect of the intervention is valued by the respondents because of the networking possibilities. During several meetings with the beneficiaries it was noted that there had developed many in-group connections, entrepreneurs seemed to be well aware of the developments in the other firms that were also in the 'CBI group'. This connectedness in the group seems to have contributed to knowledge spill-over effects.

2.2 Unintended effects

One negative spill-over effect of the CBI intervention, although this might be partly anticipated, is the impact it will have on other actors in the market. The CBI beneficiaries received many free benefits – They received a week of training in the Hague, discounted trips to seafood shows, free training sessions etc. - that a competitor would otherwise have to pay for. This will give them a comparative advantage over their competitors. All of the CBI beneficiaries stated that they increased their sales, while often reducing their costs. The more successful CBI is in effecting the performance of the participating SME's the more negative its effect will be on other actors in the market. We interviewed one director that was very eager to enrol in CBI but was never invited. She claimed that to get enrolled in CBI you will have to be part of a certain network. However, it should also be noted here that CBI uses various objective criteria in its selection and firm auditing process, such as whether firms have, or are close to obtaining – an EU export number; which is a key requirement for entering the European market.

During the first field visit CBI beneficiaries noted that the increase in exports to the EU resulted in buying more products from producers downstream in the value chain, thereby also increasing turnover & employment in these firms. This observation highlights the importance of accounting for productivity and employment effects not only within the supported SME, but also up- & down-stream in the supply chain.

3 ---PART C ---- THE EVALUATION

3.1 Implementation efficiency

3.1.1 Selection of beneficiaries

Potential firms for the PUM intervention are mainly targeted via local representatives, who adhere to the PUM selection criteria (local ownership, maximum annual turnover of €10M). These local representatives are local experts that work directly under the PUM country coordinator, that have the task of identifying potential candidates and informing them about the PUM intervention. They have a strong incentive to do so, since they receive approx. 400 euro for each successful application. Normally the PUM representative targets the firms directly, finding new potential firms via their network of other firms. After a firm has shown interest, the local representative visits the firm and identifies their specific needs. The firm has to enroll via the website, but the local representative often helps him with this. When the form is submitted, the PUM expert often arrives a few weeks later.

Given the remuneration scheme in which local representatives receive a fixed amount for each SME they recruit into the program, and the local representatives have an incentive to target as many firms as possible. Maybe partially as a result of this, the local government of Sidarjo is now also one of the PUM beneficiaries: Since 2014 the local government in Sidarjo has applied for eight different PUM experts. This is somewhat surprising, since PUM is originally meant to target firms only. The local government defends this by stating that the PUM experts are conducting a study about water culture and that this study might indirectly support the local companies. The local government was very satisfied with the PUM consultants, since they received eight different experts – which would be very expensive in the local market – for the price of only board and lodging. Nevertheless, this is not what the PUM intervention is intended for, and is a signal that the financial incentives that the local representatives have for finding candidates, might disrupt following the selection criteria.

As for the CBI program, participating firms were initially approached by the leading consultant of the program, Siegfried Banks. Banks is one of the leading consultants in the fishery sector in Indonesia and hence has a large network. All CBI candidates knew him before they enrolled in the program. Similar to PUM, the selection of firms in the CBI program is also based on local ownership. Furthermore, firms are assessed for their potential to enter the export market before they can enter into the program. In addition, CBI bases its selection decision on whether firms have, or are close to obtaining, an EU number – which is an important precondition for firms to be able to enter the European market. In contrast to PUM, the CBI program has a limited number of spots that can be allocated to the participating firms, and there are no financial incentives for local CBI staff to recruit more firms. As a result, the CBI selection mechanism is more geared towards selecting “high potential” firms.

3.1.2 Matching the SME with experts that provide additional knowledge

Several PUM supported firms indicated that the expert they were matched with for their first mission did not always have specific knowledge with respect to the particular challenge the firm was facing. In part this was related to the fact that firms did not always have a clearly specified challenge to begin with, and partly it also seemed to result from the fact that the local PUM representatives that had recruited the firm did not have specialized knowledge about the aquaculture sector, thus making it somewhat challenging for them to identify ex-ante exactly which type of experts would be most suitable.

3.1.3 Follow-up of the initial support provided to the firms

PUM interventions did not always target the primary constraint SMEs are facing. One beneficiary reported that the first mission provided support on management whereas the main concern was the improvement of the production capacity. It seemed that prior to the first visit it had been difficult for PUM to identify what the main challenges for the SME where. After this mission it had become clearer what these were, and the subsequent missions were hence better tailored. Many of the PUM beneficiaries we talked to, stayed in contact with their PUM advisor by email or social media. Often this was followed by a second visit. One of the hindrances then however, becomes the fact that the beneficiary is required to pay an additional 700 euro for the second visit.

3.1.3 Specific SME characteristics

During the interviews, we noticed that most of the barriers with regard to successful PUM interventions are directly related to either the expertise of the PUM expert or the characteristics of the SME that receive the PUM expert. The latter can be specified in two barriers:

- ***Financial constraints***

  During both field studies PUM beneficiaries reported that financial constraints make it hard for them to grow, despite of advice received. One firm reports that they want to upgrade their fish farm by building a roof over the ponds, but that they cannot access bank credit and don't have other sources of financing that cover the investment needs. The firms that mentioned this constraint seemed to not have invoked PUM expertise in this domain.

- ***SME size***

  Some of the interviewed SME's were dissatisfied with the PUM support they received. These SME's had in common that they were all very small companies. The PUM advisors appeared to be unable to give suitable advice for companies of this size. An interview with a PUM expert who happened to be in Java during the second field visit confirmed this. According to him a company has to be certain size and of a

certain standard, before a PUM expert can provide him with appropriate advice. Most PUM advisors appear to lack specialised knowledge for very small firms.

With respect to the CBI intervention three barriers/enablers that relate to the SME characteristics can be identified:

- ***Level of transparency of the SME***
  CBI participants mentioned the importance of transparency during the training sessions. If the participants are unwilling to be transparent about their businesses, it will reduce the value of the training session. As explained by one of the beneficiaries:
  > *A lot depends on the group (of participants -red). If you are unlucky, you enrol in the CBI program with a group full of old generation. This generation does not want to talk. They want information but don't want to share. They have too many secrets. The program wouldn't be so valuable if the group is bad. If you join CBI, you need a certain mindset. You are expected to share information.*

- ***Risk aversion and financial constraints***
  For most CBI participants moving forwards from the CBI training sessions to actually exporting to Europe meant that they had to make significant changes in their production line. Most of these required big investments. As explained by one of the participants:
  > *When you want to have EU standard –which is A in Indonesia - you need to invest in a metal detector. When the fish is already filet and frozen it has to go through a metal detector. A metal detector is around 15-16,000 USD. This is a must. Then you need to hire Q&C experts that are reliable – and that understand heavy metal – proportions etc. These are more expensive workers. And they have to be trained. You actually also need your own lab. You need to check the formalin etc. Also, you need a data logger. You need to log the temperature changes – to be certain no critical temperature were ever reached. The data logger is the software that records all temperature changes. Also, for EU, you cannot use chlorine. Chlorine is cheap – but for Europe you can only use it for foot bath. Also, no more wooden knives and cutting boards. You cannot suddenly decide to export to Europe.*

  For those with limited capital these investments will be difficult to implement. But even for those with access to capital, this is an investment with a risk. The requirements for European markets are different from the requirements for markets like the US that are also considered to be more lucrative. Whether or not the SME eventually decides to make the necessary investments depend on his own risk

assessment. Most SME's that were interviewed noted however that by diversifying their export to a variety of countries, including European markets, they would diversify their risks regarding macro-economic shocks.

3.1.4 Specific support modalities

According to the PUM beneficiaries, PUM might improve its program by extending the visiting time of the expert to longer than the current 14 days. Most of the PUM beneficiaries claim that 14 days is not enough, even though they often stay in contact with the expert, even after the visit (mainly via social media). Most PUM beneficiaries are hesitant to apply for a second visit, because of the extra costs – of 700 euro – that is added. A PUM local representative notes that circa 40% of potential applicants eventually do not apply because of the costs of accommodating expert is considered to be too high.

As a result of the short duration of the visit PUM consultants sometimes make mistakes that could have prevented with a slightly longer stay. One PUM expert who visited a small local producer in Sidarjo for only one week – intended to help her this producer afterwards by applying for the grant at the *Hans Blankert-fonds*. He applied for a 4000 euro grant to obtain an industrial mixer machine.

3.2 Barriers and enablers

3.2.1 Private sector collaboration

Interviews with CBI and PUM beneficiaries as well as experts provided insights as to various market forces that served as barriers and/or enablers to the success of the interventions:

- ***Prices offered in Europe are relatively low***
  One of the biggest barriers for SME's to export to Europe was that the prices they offered were lower than the prices offered in US –and sometimes Japan. In particular shrimp exporters could get much better prices for their products in the US than in Europe. The reason that Europe offers lower partially explained by the currency fluctuations.

- ***Differential preferences***
  Some of the SME's noted that the species of fish they have specialised in are not popular in Europe. A notable example is for example the Milkfish (or Bandang) which is very popular in the Asian market, but not in the European market.

- ***Competition from other countries (in South East Asia)***
  Countries like Malaysia, Vietnam and Thailand already have strong hold in the European market, in particular regarding species like tuna and snapper. Also, as a result of the implementation of stricter national regulations in Indonesia (see

below), other South East Asian countries can supply products based on these species for a lower price than Indonesian companies.

- **Availability of more interesting export markets**
  Generally, the most preferred export market for the SME's that were interviewed is the US. This is the case for products that are based on a wide variety of species, as shrimp, different kind of whitefish and tuna. Reasons that the US market is so popular are: that they offer good prices, and that the import requirements are less strict than in Europe. Also Japan is often mentioned as one of the preferred markets, because of their demand of fish species that are unavailable in other countries in South East Asia, giving Indonesian companies a competitive advantage. The Chinese market is popular among those of Chinese descent. It is generally noted that without a proper network in China it is hard to compete.

3.2.2 Public sector support

There are a number of barriers and enablers with regard to the institutional environment that came up during the interview sessions with CBI beneficiaries. As mentioned in paragraph 1.2.2, since 2014 the Ministry of Maritime Affairs and Fisheries, has implemented number of policies in with the objective to make the fishery sector more sustainable, while promoting nationalization of the industry.

During the interviews with the CBI beneficiaries many of them were mentioned as current hindrances for export (although it was also mentioned that they may benefit some companies in the long run, by increasing the fish population). As major barriers were mentioned:

- ***Obtaining catch certificates***
  One of the CBI beneficiaries mentioned that it is difficult to obtain catch certificates from fishermen. These catch certificates – which identify how much and where the fish was caught – are a requirement for exporting to Europe. However, this firm mentioned that many of the fishermen didn't want to provide a catch certificate.

- ***Shortage of raw materials***
  One of the new policies of the Ministry of Maritime Affairs and Fisheries is that larger fishing vessels are only allowed if they have acquired a permit. Acquiring this permit is a tedious and lengthy process. At the moment of the evaluation most of the larger vessels were still waiting for their certificate – hence not delivering any fish. This immediately affected the firms that own larger fishing vessels, since they now encounter a shortage of raw materials. Other firms were indirectly affected: as a result of a decreasing supply price of certain fish species increased, making these firms less competitive on the international market.

3.3 Additionality

3.3.1 Additionality to the local market of business training providers

Most of the CBI beneficiaries showed awareness of private consultancy companies. This notion was further supported by CBI's sector export, who indicated that there is a limited supply of affordable consulting services in Indonesia, in particular services that are implemented over longer timespans. However, despite that they would value their services; they also claim that buying advice in the private market is very expensive. Nevertheless, one of the firms mentioned that there is a growing awareness among the younger generation of business owners and managers in the sector that investing in commercial consulting can be a good investment – even though the price is high. One firm notes that they would now be willing to pay approximately €300 for a 3 to 4 day training course. Another firm notes they would be willing to pay approximately €1,000 for a 1 week training course. Both of them state that it is probably because of the CBI training that they have become convinced of the value of these services.

PUM seems to address an unmet (latent) need for advice among SMEs. Non-supported firms in the sector did not seem to be aware of the availability of other PUM-like advisory services (i.e. subsidized consulting). Some services do exist however. It was noted by larger firms that the Japanese development organization JAICA provides BDS services, albeit mostly focused on larger exporting firms. Similarly, the Indonesian government provides trainings but these to seem to be mainly focused at somewhat larger exporting firms. Furthermore, the market for commercial consulting for this sector seems to exists, albeit at prices which are prohibitively high for micro/small firms, only the larger exporting firms seemed to be able to afford these. It must be noted that these firms were somewhat smaller and less professional than the firms supported by CBI, so their lack of knowledge about other SME support programs could also be partly due to them being less informed & connected.

PUM beneficiaries also indicated that after having received PUM support their willingness to pay for future support had increased relative to before the intervention. This suggests a lack of information and understanding about the intervention ex-ante, causing firms to undervalue the services beforehand.

3.3.2 Complementarity to other supports provided to the SMEs

Most firms are positive about the support of CBI in comparison to the services provided by the Ministry of Fishery and Marine Affairs and its various agencies, the Surabaya Seafood Service Centre, the local government or AP5I (Indonesia Fishery Product Processing & Marketing Association). The respondents mention a number of differences between the services offered between CBI and the others. First is that the training sessions that are provided by CBI are more appreciated than those offered by the other agencies. Although it

is mentioned that other agencies also offer training sessions on a regular basis, these are much shorter – and considered to be of lower quality than the CBI sessions:

> *There is consultancy available from private companies (in Surabaya – red). But it is very expensive. There are also some programs that the government provide, but these are very global – no details. The CBI training program provided a lot of detailed information. The CBI trainings lasted 2-3 days, whereas our government programs a few hours or half day at most.*

Second is that the training sessions appear to be complementary to the sessions of other organization. Most of the CBI participants are also members of AP51. Although this association also offers services, the content appears to be different. The trainings offered by AP51 are more species-specific and technical – whereas the focus of the CBI trainings is more on businesses processes, logistics, marketing and export:

> *We are a member of AP51. We are in their WhatsApp group where they keep us informed about the latest policy changes. Also, they provide us with some technical trainings. But unfortunately, most of these trainings are about shrimps. So not relevant for us. The majority of the members are shrimp companies, so it makes sense.*

But enrolment in CBI is more than training sessions and consultancy alone. CBI offers its participants so many other extra's that it is hard to compare to other available services. As one of the participants put it:

> *CBI supports you with a freezer and a space at the seafood show. The first year you join CBI this is free. It is worth about 6000 USD. If you don't join you are stupid! The second year you pay 40%, the third year 60%. This is a very good deal. And you got a lot of insight information. They have many experts. For example, CBI told me that there is lot of demand for fish in Portugal. The CBI web also contains a lot of information.*

With regard to the PUM services: we found that none of the PUM participants was aware of any other advisory services offered by non-profit associations or development organizations, only a few firms had heard about expensive commercial consultancy services which they deemed to be too expensive.

3.3.3 Synergy between PUM and CBI

The synergy between the PUM and CBI intervention appears to be limited. First, this is visible in the level of cooperation between the two programs:

- At the Netherlands Embassy in Indonesia, there is limited knowledge about the precise activities of PUM and CBI: Those who are responsible for PUM are only to a limited extent aware of the activities of CBI and vice versa.
- The SME's that received CBI support were not aware of PUM. Asked about PUM they stated they had never heard about these services before. Similarly, most SME's that received PUM support had never heard of CBI. However, as was later explained by CBI, there have been several occasions where its meeting were attended by local representatives from PUM. Since the time between application for PUM and actually receiving of support can be up to 9 months, it is difficult for CBI to link program beneficiaries to PUM , since the firms often face challenges that are more urgent.

However, a lack of cooperation doesn't necessarily imply that there is no synergy. Synergy can be achieved without cooperation, as long as the two interventions reinforce each other. We found however no evidence of this. One might claim that the two interventions are complementary because they target different sizes of companies in Indonesia, with PUM serving the smaller and CBI serving the larger SME's. As described above however, PUM appears not to be better equipped to serve the smaller SME's than CBI is. Moreover, according to one of the PUM local representatives, the activities of CBI & PUM in fishery sectors are sometimes conflicting because CBI is helping the larger companies keep/push the smaller firms down.

4 ---PART D ----- CONCLUSIONS

4.1 Reflections on intervention logic

This case study aimed to shed light on the mechanisms by which the CBI and PUM activities in the fishery and aquaculture sector in Indonesia influence firm competitiveness, export growth and sustainable economic development. This was done by means of two field missions consisting of interviews with supported as well as non-supported firms and organizations on Java. Guided by the theory of change, this case study focused on a number of key assumptions regarding the CBI and PUM activities:

- *The interventions are additional and complementary*

Most interviewed firms, both CBI and PUM beneficiaries, indicate that they have learned a number of valuable things from exposure to the programs. As for the PUM supported firms, the benefits from the support were indicated to be partly in the domain of improved technical knowledge, for example about more efficient aquaculture production techniques. Several firms also indicated that these productivity gains resulted in increased turnover and profits, although the effects on employment creation were less clear-cut. From this point of view, the case study was unable to draw strong conclusions about the extent to which the

PUM intervention contributes to poverty reduction, although the positive effects on economic development seems more plausible on the basis of the interviews.

It was further noted by most PUM-supported firms that there were no/few alternative options for small firms in the sector to obtain affordable consulting services, and many firms indicated not to be aware of any such option. This indicated that the type of activities offered by PUM, i.e. subsidized SME consultancy that exceed the short 1- or 2-day training programs offered by local governments and NGO's, are unique in the context of the fishery and aquaculture sector in Indonesia.

As for the CBI-supported firms, most of the interviewed entrepreneurs indicated that they had obtained many useful insights from the CBI trainings, and participation in the trade fairs. One of the trainings and consult that appeared to be most valuable for many the respondents were those on the topic of process optimization. Many of the SME's put these lessons into practice, increasing their efficiency, reducing their cost.

- *The programs are effective in improving knowledge, practices and firm performance*

Most SME's that participated in the CBI program made the necessary investments to be able to export to Europe. Respondents also mentioned an increase in profit, sales and export. However, exports to Europe appeared to not have increased substantially, because of macroeconomic fluctuations. Some of the PUM beneficiaries mentioned that they improved their machineries with help of a PUM expert. Furthermore, all SME's that were enrolled in the CBI mentioned their circle of international customers had grown and that they have gained much exposure, also because of the annual Seafood Show in Brussels – of which CBI supports their participation. We find no increased exposure to international markets of PUM beneficiaries.

The majority of the CBI that we interviewed believed that their level of professionalism has improved as a result of the CBI intervention. However, is should be noted here that this not automatically implies that the market as a whole has now more competent exporters. The intervention, in particular CBI, may as well distort competition. Out of the many fish producing companies that operate in Indonesia only a handful were invited to participate in the program. This process was rather arbitrary and apparently based on personal networks. However, these 'chosen few' received a great amount of benefits – including free trainings, consultancy, field trips etc. – that other competing firms do not receive. If the CBI trainings

are effective, these SME's will be able to reduce their costs, driving their competitors out of the market.

- *The programs drive sustainable economic growth*

As for the topic of environmental sustainability, it was noted that firms in the CBI program had become more aware of the need for adherence to various sustainability standards in order to enter the EU market. Furthermore, it was noted in several interviews that firms were fairly pragmatic about adherence to the sustainability standards. For example, one firm in the CBI program was trying to enter the EU market to export shrimp, in adherence to the EU sustainability guidelines, but at the same time this firm also indicated to be exporting shark fins to the Chinese market. This example illustrated how adherence to sustainability guidelines still seems to be largely driven by business interests, rather than more intrinsic motivation to environmental sustainability. As for PUM, the topic of environmental sustainability was less clearly an agenda point, since the production of fish in the aquaculture sector is by its nature not affected by concerns of overfishing. However, the pollutants produced in the aquaculture production process do call into question the topic of environmental sustainability.

Another component of sustainable economic growth is employment creation. However, we find no indication that the CBI intervention has affected employment in the sector. On the contrary, several beneficiaries stated that because of the CBI training they had optimised their production process, reducing costs by cutting down on employees. With regard to PUM; although the intervention appears to be more effective by the SME's that have more capital or are of bigger size.

- *The program is implemented efficiently*

Interviews with the PUM local representatives made clear that the mechanisms by which PUM recruits its beneficiaries, whilst adhering to the criteria of local ownership and limited turnover, do not necessarily result in the selection of the firms that could benefit most from the support. In particular, the incentive for local representatives to earn a fixed sum for each recruited firm is not supportive towards the selection of the firms that could benefit most. Furthermore, since the local representatives do not have specific sectoral expertise in the fishery and aquaculture, it might be hard for them to assess to what extent firms could benefit from specific expertise from PUM's senior experts. For CBI some different insights regarding the firm selection were obtained. Firstly, the prominent role of technical experts in the selection process seemed to be more suitable in terms of identifying the high-

potential firms, i.e. those SME's that were – based on the intake procedures – judged to have significant potential to enter the export market with CBI guidance. However, the selection process for CBI was partly based on firms' pre-existing connections and personal relations with various sector-based organizations.

4.2 Recommendations

Environmental sustainability is a crucial factor in the fish and aquaculture sector. We noticed however that for many exporters in the CBI program the decision on whether to focus on the EU market vs. local Asian markets was in part driven by pragmatic concerns about lower environmental standards in the region, thus making market entry easier. Although the EU market does offer a price premium, various firms seemed nevertheless inclined to focus at least partly on local markets, thus indirectly undermining CBI's ambition to promote more sustainable practices. To address this issue, both in future programs in this sector and other sectors that also face sustainability challenges, it might be worthwhile for CBI to test methods to stimulate more the intrinsic motivation of producers to operate in an environmentally sustainable manner, for example by providing some education about the negative environmental impacts of non-sustainable fishing practices.

Secondly, for the PUM program it was observed that local representatives did not always possess the required knowledge about sector-specific issues in the aquaculture sector to fully understand which type of expert was most beneficial for the firms requesting PUM support. In turn, this may lead to the allocation of experts to firms that is not fully efficient, for example because the local representatives made a somewhat incorrect "diagnosis" of the particular challenges in the firm. To this purpose it might be useful for PUM to consider working with local representatives that have more sector-specific knowledge, and more generally to operate in a manner that is more focused on specific sectors, such that these measures can be implemented more broadly.

Annex A: PUM Activities

Overview of key CBI activities and outputs (adapted from mission reports and interviews)

Firm ID	Summary of mission
101	Firm wanted to address technical challenges with mixers, extruders and cutting machines. The expert made an inventory of the causes of these various challenges and made suggestions in terms of designs and drawings for improvements in the factory set-up. The owner however indicated that several of these recommendations cannot be implemented in the short-term due to limitations in supply in financial constraints. Nevertheless, the owner and production manager reportedly think the proposed changes will be successful.
102	Firm was interested to develop an aquaponics production facility to benefit the local community. The expert has been asked to develop a business plan/project and to train staff to realise this idea. At the first meeting, the customer also expressed interest in general marine aquaculture (grouper). In a second meeting at day 4, all the general options available have been discussed. However, after further discussion this option was put aside at that time and it was decided to focus on freshwater aquaponics only.
103	Firm initially had no clear challenge but more general interest in business advice. The first mission focused on management advice, but was perceived by the firm to be not very useful. Then, the second and third mission focused on marketing/sales and technical improvements (better production methods). These missions were perceived to be very useful, although the firm still faces considerable financial constraint to upscaling towards indoor fish farming.
104	Firm is non-profit organization that was interested in developing an entrepreneurship curriculum for its students in the fishery and aquaculture sector. The mission focused on providing a two week training-of-trainings for teachers to learn more about entrepreneurship education which they can in turn integrate in their curricula for the students. Examples of materials taught include identifying key psychological characteristics for successful entrepreneurs and making business plans. The school directors & teachers present at the meeting reported that that the ToT has been very useful for them in become more aware of the topic of entrepreneurship.
105	Firm engages in fish breeding and was interested in PUM support to improve its fish breeding techniques, e.g. application of hormones to reduce the mortality of young fish and developing low cost water filtration systems (both leading to higher productivity). This is what the mission focused on and the firm indicated that the advice wil be useful for them in growing the business. The firm also indicated an intention to shares the obtained knowledge with local small-scale fish farmers who typically operate a small pond and can learn a lot from the technologies.
106	Firm is involved in kroepoek production and was recommended by a large multinational to seek PUM support. The firm was interested in improving its management practices and optimizing its production process. During the mission, various changes in the staff organization were proposed, and the owner indicated a willingness to implement these measures. In a second mission the expert followed up on these plans and made further recommendations as to the refinements of the various measures. The firm reportedly indicated that these activities had helped them boost their productivity, in particular by streamlining their production line.

107	Firm is involved in fish and shrimp nursing, and was recommended by the local government to seek PUM support. The expert provided advice on improving the water management, to raise productivity. However, the communication between the expert and the firm owner was not optimal as the firm did not have a clear understanding of the initial aim of the mission; it seemed to be largely "supply-driven" because the mission was recommended by the local government. Nevertheless, the mission did contribute to the firm gaining a better understanding of monitoring and managing the PH level of the water to maintain good production conditions.
108	Firm works on fresh-fish production and manufacturing, focused on local markets. Firm faces challenge in terms of accessing capital to expand and growth. The expert provided advice on how to apply for credit with local bank, for example by forming a group with other entrepreneurs and jointly applying. In addition, the firm helped them with obtaining an improved blending machine for its fish manufacturing processes.
109	Firm is involved in export of fresh fish to local Asian markets, requested PUM support to help them with international marketing strategy. The expert adviced the firm to get EU export license, and adviced firm on how to obtain this license. Furthermore, the expert gave the firm on how to expand their operations by getting another fish processing factory, and on how to recruit suitable staff for this new factory. However, this expansion requires significant capital and the firm is not yet ready to make this step.

Annex B: CBI Activities

Overview of key CBI activities and outputs (adapted from 2015 progress report)

Date	Location	Activity	Results/Comments
Oct '14– April '15	Indonesia	ECP Module E: 3 TAM missions	Most companies made good progress on preparing for EU market entry. Several companies have been building new factories.
June '14 – May '15	Germany	ECP module E: distant guidance	
15-19 Sept '14	Netherlands	EXPRO	Well evaluated! Good mix of exporters and BSOs.
21-23 April 2015	Belgium	ECP Module H: participation in trade fair Seafood Expo Global	8 out of 11 ECP participants. Participation was successful: .... business contacts and expected orders of € .. mln
23-Oct-14	Indonesia (Makassar)	Workshop Social Compliance, Worker Safety and Animal Welfare	28 participants, mainly (ECP) exporters and some BSOs
24-28 Nov. 2014	Indonesia (Jakarta and Surabaya)	CSR and Process Control	39 participants, mainly (ECP) exporters and some BSOs. Well received. Approaches CSR from the perspective of economic benefit instead of a cost
20-Apr-15	Belgium	Exhibitor empowerment training prior to Seafood Expo Global'15	Together with the Vietnamese exhibitors
Nov'14 – May'15	Indonesia, Netherlands, Belgium and distant coaching	BSOD: Strengthening associations – 2 missions IND and strategic meeting at SEG in Brussel	Results are mixed. See description in section situation report
June'14 – May '15	Indonesia, Netherlands, Belgium and distant coaching	BSOD Professionalizing trade fair participations IND	Manual on organizing collective trade participation developed by MOMAF with CBI coaching. Advising on improving stand/communication concept IND on international events like SEG'15
June '14 – May '15	Indonesia, Netherlands and distant coaching	Branding	Results mixed: branding house with values and slogan 'INDONESEA SEAFOOD naturally diverse' developed. Challenge is bringing the sector under the branding umbrella. Mainly a role for MOMAF and the associations (connection with association project)

Programme achievements

The companies are doing fairly well. In general it can be stated that most of the ECP and training targets are already achieved. A few elements are still work in progress like the delivery of final versions of export market plans. Regarding the outcome KPI for BSOs, reference is made to the previous progress report 2014. Based on the discussion whether or not to link BSO support directly to outcome export growth, it was then decided that for the time being in the result chain a direct link can be placed from the BSOD results (developed and/or improved services) to the market entry phase of the ECP. Argument: through improved services of BSO's, exporters are better able to realize the outcome of increased exports. In the BSO part of the programme, results are a bit more mixed so far. This has to a large extent to do with the project 'Strenthening of associations'

Annex C: Case Study Research Methodology

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Case study design

This document outlines the methodology that will be used for the qualitative PRIME case studies. These case studies are complementary to the quantitative analysis of the PUM and CBI monitoring and evaluation data Case studies examine processes in specific contexts in order to answer an overarching research question, analyzing dynamics within each case and comparing across several cases. Our research question for the case studies is *'Why and how do CBI and PUM interventions work, for whom and under what conditions?'*, in order to provide guidance to CBI and PUM on the ways that they might use to improve the effectiveness of their support. This implies the need – *within case analysis* - to study different types of beneficiaries and non-beneficiaries (e.g. larger and smaller SMEs) of the support in a specific country and sector, and the need to study similar support under different conditions – *across case analysis*. Table illustrates the combination of a within and across case analysis.

Table A1. Case study analyses to answer the research question

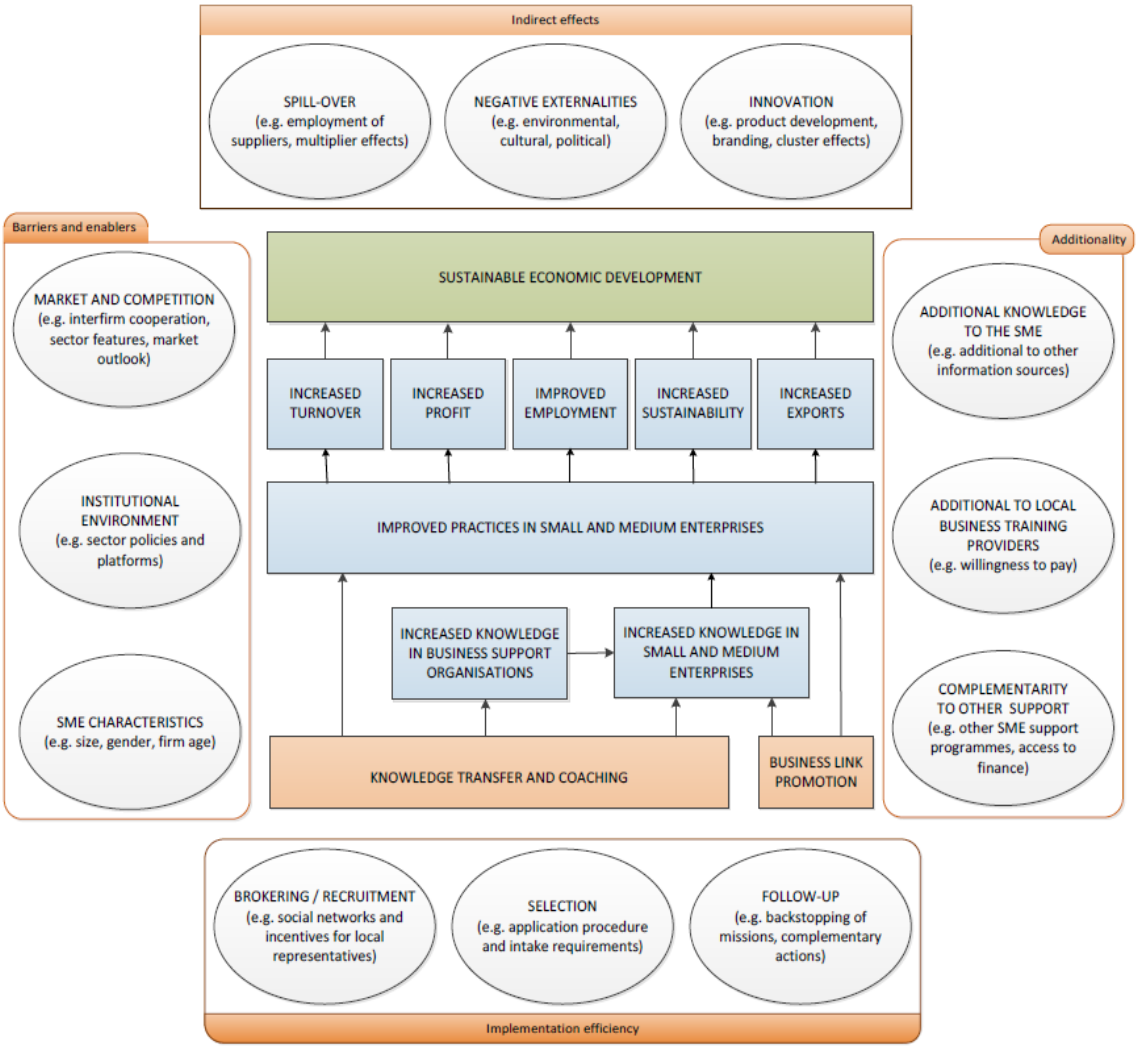
Research question	Research objects	Within-case analysis of enablers/barriers	Across-case analysis of enablers/barriers
What works?	Support modalities	Identify different support modalities used in sector	Compare similar support modalities across cases
For whom?	Beneficiaries	Differentiate effects between larger/smaller, younger/older firms etc	Differentiate effects between more/less developed countries
Under what conditions?	Sector & country	Identify effect of economic and political conditions	Cases cover various sectors, with different economics & political conditions
	Enablers & barriers	Identify plausible enablers and barriers of effectiveness	Compare enablers and barriers across cases
Policy recommendations: ***How can CBI and PUM improve the effectiveness of their support?***			

Case studies are conducted in six beneficiary countries, in the sector where CBI and PUM are both supporting SMEs. The case studies consist of in-depth and semi-structured interviews with client enterprises, non-client enterprises, BSO representatives, and (sector) experts in order to get a deeper understanding of the mechanisms that affect the effectiveness of CBI and PUM support.

Qualitative research methods

To gain insights into the effectiveness of CBI and PUM activities, we use qualitative research methods to identify the processes and dynamics that take place during and after the support trajectory and which influence the effectiveness of the support activities. Across the cases a similar framework is used to facilitate the research synthesis and help us understand why the programme works differently for the various sub-groups, with different characteristics or under different conditions (see Figure 1).

Figure A1. Conceptual framework for the research synthesis



Based on the desk research and first mission insights, the researchers sketched visually the intervention logic that is pursued in each sector/country, indicating the key assumptions of impact that seem to influence the effectiveness of the support. This framework (Figure 1) is used and refined in the second mission, which focused on main knowledge gaps about these key assumptions and plausible enablers and barriers. The main elements on which more in-depth information was needed related to the additionality of CBI and PUM compared with other public and private support modalities available in the sector and the implementation efficiency of CBI and PUM. Therefore, compared with the first missions, these second missions comprised more in-depth interviews with sector organisations and less attention to interviews with the supported firms. Another important area is to explore whether and how the support provided to certain SMEs might affect other SMEs, both negatively and positively. An example of a negative externality could be that a support obstructs or upholds other development initiatives in the sector. An example of a positive spillover would be that supported SMEs share the knowledge gained from the CBI and PUM support with non-participating SMEs in the region. The case studies provide an opportunity to identify these types of indirect effects by interviewing not only the supported firms but by also reflecting on the dynamics in the sector with unsupported firms or sector experts.

Selection of cases

To select the cases, CBI and PUM support portfolio was reviewed through the analysis of programme documents, the data on the supported firms in the last years, business case documents and personal interviews with CBI and PUM staff. This resulted in an overview of all countries involved in the support programmes and the number of firms enrolled or supported. The selection of the key sector in each country subject to PRIME research will be based on an assessment of the diversity in the support portfolio, the synergy between CBI and PUM activities, and logistical considerations. This helped especially to select sectors with CBI support that had also received some PUM experts in order to use PUM representatives and sector organisations to reflect on CBI support and CBI experts and supported sector organisations to reflect on PUM support.

To select the countries for the case study a random element was added to reduce an eventual bias in the selection of cases towards ‘better’ experiences of support, which would threaten the validity of the research findings. Therefore, the research team has used the randomized list of countries and selected cases with the explicit objective to maximize diversity. The following criteria have been used:

- Case-studies cover all continents.

- Case studies cover both the least developed, lower income, lower-middle income and upper-middle income countries.

- Case-studies cover different sectors, preferably where synergy of PUM and CBI can be expected, favouring the sectors in which CBI will concentrate resources in the future and considering the overlap in sector focus in past PUM support.

Based on these criteria, a proposal was made to the Programme Board in January 2014. Two countries were normatively selected because they received relatively high levels of support. Other countries were added by reviewing a ordered list based on the random number generated. One case, the Philippines, was replaced, after consultation with the Advisory Board, with Myanmar in order to increase the number of least developed countries.

In the following table we present the list of countries according to their random number and with an explanation of why the country is rejected or included in the list of six case-studies (selected cases are marked in dark green).

Table A2: Countries/sectors selected for case studies

Random number	Country	Region	Income category	Rationale
0.024	Indonesia	Asia	Lower middle	normative: high incidence of PUM and CBI
0.274	Bolivia	Latin-America	Lower middle	normative: high incidence of PUM and CBI.
0.976	Peru	Latin-America	Upper middle	no reason to reject
0.914	Colombia	Latin-America	Upper middle	rejection: LA with 2 cases already
0.856	Nepal	Asia	Least developed	rejection: few activities of CBI
0.839	Afghanistan	Asia	Least developed	rejected: no activities of PUM
0.839	Bangladesh	Asia	Least developed	no reason to reject. Selected under PRIME-ITC for additional quantitative research
0.810	Macedonia	EU	Upper middle	second stage rejection: Europe not preferred
0.805	Uganda	Africa	Least developed	no reason to reject
0.800	Bhutan	Asia	Least developed	rejected: few activities CBI and PUM
0.774	Philippines	Asia	Lower middle	rejected: preference for LDC
0.772	Myanmar	Asia	Least developed	rejection: no activities PUM
0.760	Kenya	Africa	Other low	likely to be selected under PRIME-ITC
0.748	Nicaragua	Latin-America	Least developed	likely replacement LA: least developed
0.711	Zambia	Africa	Least developed	no replacement: few activities CBI
0.693	Madagascar	Africa	Least developed	no replacement: few activities PUM
0.672	Ghana	Africa	Lower middle	likely replacement Africa: least developed
0.607	Tanzania	Africa	Least developed	no replacement: few activities CBI
0.600	Sri Lanka	Asia	Lower middle	possible replacement Asia: limited choice of sectors (tourism, IT)
0.577	Armenia	EU	Lower middle	likely replacement Europe
0.570	Vietnam	Asia	Lower middle	possible replacement in Asia: sector diversity

Research methods

For the first mission, we selected the SMEs for the qualitative interviews based on the potential to get additional insights about the processes, conditions and mechanisms that influence the effectiveness of CBI and PUM support. This implied a purposively selected sample of CBI and PUM supported firms, complemented with some firms supported through similar programmes, and some unsupported firms. The selection will be made

based on a list with an overview of CBI and PUM participants in the last five years and the applicants to the new programmes starting in the selected countries. Next, to that, some non-participating companies were selected based on the available information provided before or during the mission by the business support organisations, and other experts working in the sector. In the first field mission, in 2015, the researchers interviewed between 16 organizations, including several BSO's and sector level organizations. In 2017, some of these were revisited as well as several new organizations that had not been previously interviewed.

After selection by the PRIME researchers, CBI and PUM experts, representatives, and country coordinators assist the researchers with making contact and planning meetings. In most cases, the interviews were held with the SME contact person who was involved in CBI and PUM activities, and in most cases, this was the managers or the director of the company. Regarding logistical considerations, and given the limited time available for each mission (5-10 days), it was important that supported firms, unsupported firms, and third parties in the respective sector, are somewhat clustered geographically.

Preparation for interviews in the first mission was done by reviewing the available information about the company using M&E data, intake form, exit form, the company website, Google searches, and interviews with CBI and PUM experts, etc. A semi-structured questionnaire (see Appendix 2) was used to indicate the themes of the interviews with the various stakeholders (CBI/PUM experts, SMEs, BSOs and experts). However, especially in interviews with the sector informants, the process and dynamics related to specific support activities were explored in more detail. Depth of information about specific enablers and barriers to effectiveness was preferred above breath of the interview. Each interview took about 1 hour.

It was made clear to respondents that the information was strictly used for research purposes and not shared with any third party without their explicit permission. Furthermore to avoid firms from feeling pressured to provide "desirable answers" or otherwise provide biased information, it was explicitly made clear that the PRIME researchers were *independent researchers*. For the same reason, when researchers or translators were needed for the interviews, the PRIME researchers worked with external parties that are not identified with CBI /PUM support activities.

Furthermore, interviews with the *non-supported* SMEs were included to gain a better understanding of the differences and similarities between the two groups, as well as provide a better understanding of why firms make the decision to participate or not participate in the programmes. By repeated visits to the firms (e.g. a first mission in 2014 and a second mission in 2015) we were able to identify firms that became more or less active in the programme during this period.

The interviews with the BSOs and other relevant stakeholders in the sectors were used to discuss how CBI and PUM support helped these organisations to improve their support to the SME sector. During the interviews with the BSOs we also discussed possibilities to get access to the data of BSOs on non-supported SMEs, explore with them the diversity/heterogeneity of SMEs in the sector, reflect on dynamics in the sector, and the additionality of CBI and PUM support in the sector.

For the second mission, the interviews focused on areas on which information was lacking according to the conceptual framework and corresponding case study report format. To prepare for the second mission, we reviewed the progress reports of activities of CBI and PUM, to identify the success/failures. CBI provided all the adjusted audits performed on the directly supported firm, and the ECP/BC progress report.

As discussed before, the first missions had yielded important insights but did not yet provide sufficient information about the enabling environment, synergy with other support, additionality to support, indirect effects on employment, to write the full report. Therefore the focus of the second mission will be more to these aspects. Based on a reflection on the intervention logic, we defined some key assumptions around which to organise the second mission the mission for the qualitative research, in view to collect information that answers for each assumption the question 'Why does it work (or not work) for whom under what conditions?

Analysis

All interviews were recorded and an interview report was written with a level of detail that made it possible to extract quotes of information. A report of one to three pages was made for each stakeholder interview. This report, especially in the second missions, followed the actual flow of the conversation and not necessarily the semi-structured interview format. The interviews and project documents were processed (coded) in the qualitative software application Atlas.ti with a coding scheme that corresponds with the headings of the conceptual framework and case study report.

After the first mission, all information concerning the case study was added to portfolio document with the rough information used for analysis and synthesis, and a short mission report of four to eight pages was written, discussed with CBI and PUM, and put on the website. This mission report provided information on basic sector level statistics and dynamics, and contained an analysis of the key observations. The first mission captured data around the general intervention logic of the support provided by CBI and PUM in each case-study. After the mission these initial intervention logics were refined, disaggregating it into specific impact pathways for specific groups and under different conditions. After the follow-up mission, all data collected was synthesed in a case study report.

Semi-structured interview guideline

1. SME performance and dynamics
SME characteristics (products, size, employment etc)
SME relations with other firms and stakeholders in sector
SME challenges and constraints to growth
Perceived impact of CBI/PRIME on SME knowledge and practices, and perception about the reasons why the support worked and the constraining and enabling factors
Perceived impact of CBI/PRIME on SME performance
Perceived spillovers of CBI/PUM support, why and for whom
Perceived additionality of CBI/PUM support, compared to other support available opportunities
SME suggestions for improvement
2. BSO performance and dynamics
Objectives and activities of BSO
Support received from CBI/PUM
Impact of CBI/PUM support on BSO activities, , and perception about the reasons why the support worked and the constraining and enabling factors
Dynamics in the sector, other support programmes, enabling conditions and policies
Perceived additionality of CBI/PUM support, compared to other support available opportunities
BSO suggestions for improvement
3. CBI/PUM intervention
Selection of firms into CBI/PUM programs
Interventions: especially the activities directly with SMEs
Perceived impact of CBI/PRIME on SME knowledge and practices, and perception about the reasons why the support worked and the constraining and enabling factors
Perceived impact of CBI/PRIME on SME performance
Perceived spillovers of CBI/PUM support, why and for whom
Perceived additionality of CBI/PUM support and WTP, compared to other available support opportunities
4. Conclusions
Critical success factors for success of interventions

The following guidelines were used in implementing the semi-structured interviews:

In planning the interview, firms are to be contacted by email/telephone by the local researcher, assisted by CBI and PUM, with the explicit notification that the research in which they are invited to participate is carried out by independent researchers.

- In case translation is needed for conducting the interviews, the research team will hire an independent translator. This person should not be affiliated to PUM or CBI field staff in the area so as to avoid bias in the translation.
- At the start of the interview, the respondent is again to be informed about the purpose of the research, about the impartiality of the research team, and the fact that all information will be handled discretely.
- With the permission of the respondent, the interview will be recorded. Additionally, researchers will make notes during the interview and write down relevant findings within one or two days after the interview to avoid forgetting things.
- To develop a friendly rapport with the respondents, the researcher will begin the interview with some small talk.
- Questions need to be phrased in an open-ended manner to avoid pushing answers in certain directions. Researchers must avoid giving opinions or judgements, and should treat respondents as equals.
- When a respondent has a judgement about PUM/CBI effectiveness, the interviewer needs to “dig deeper” and ask, for example: *How* they were contacted, *How* they implemented advice received from CBI/PUM, *Why* they did or did not implement certain learnings, *What* they observed or heard about *which* concrete SME/BSO.
- Researchers use silence as a probe to get respondents to share new points: don’t rush them through the questions.
- The order of the questions on the semi-structured list can be modified if needed to preserve a good “flow” for the interview.