

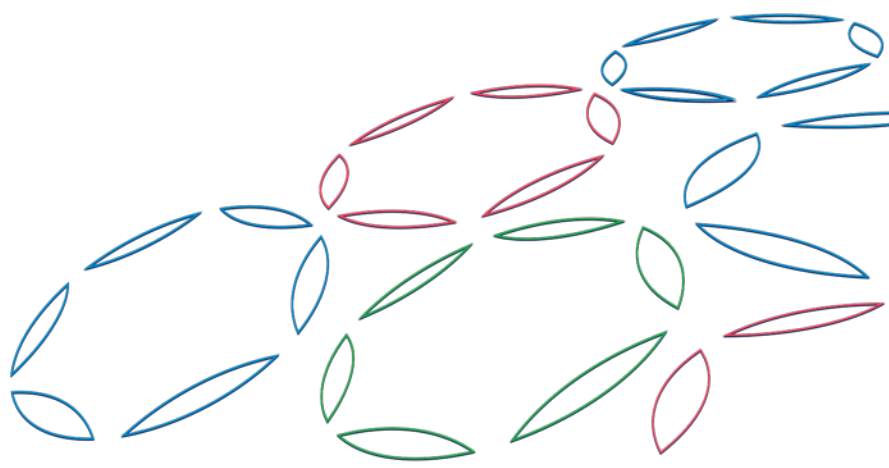


Coastal fisheriers in the N-Atlantic / Kystfiskeri

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Report summary

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| <i>Summary:</i> | <p>Coastal fisheries play a vital role in the marine sector of the Nordic countries and often serve as the backbone of the economy of smaller coastal communities. The coastal fleets usually have a big presence in smaller, more remote fishing villages, supplying local processing companies with raw material. The coastal sector is therefore highly important for regional development, as it represents a significant part of total landings and offers employment for a large number of fishermen, processors and other supporting industries.</p> <p>Despite its importance, the Nordic coastal fleet has been struggling for survival for the last decades. This is why a team of stakeholders in the Nordic coastal sector came together in 2012 to facilitate networking within this important sector. With support from NORA, The Nordic Council of Ministers (AG-fisk) and the Canadian Centre for Fisheries Innovation (CCFI) they organised conferences and workshops with the aim to explore opportunities for cooperation and knowledge transfer. This led to various collaborative initiatives and has resulted in the publication of reports on the Nordic coastal sector(s), development of a mobile app to indicate to coastal fishermen how much ice is needed to properly chill and store their catches, publication of brochures in most of the Nordic languages on good on-board handling, publication of a video on the Nordic coastal sector and on-board handling, participation at various workshops and conferences relevant for Nordic coastal fisheries; as well as setting up and maintaining a web page www.coastalfisheries.net where project outcomes and other relevant material is made accessible.</p> <p>This report marks the end of the project and constitutes as the final report to NORA, which was one of the funding bodies supporting the project. The project was primarily intended to facilitate networking and knowledge transfer among stakeholders in the Nordic coastal sector and it is the conclusion of the project partners that the initiative has successfully met those expectations.</p> | | |
| <i>English keywords:</i> | <i>Coastal fisheries, Coastal communities, Nordic Marine sector, regional development, networking</i> | | |



Coastal fisheries in the N-Atlantic

(Kystfiskeri)



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Introduction

Coastal fisheries play a vital role in the marine sector of the Nordic countries and often serves as a backbone of the economy of smaller coastal communities. The coastal fleets usually have a big presence in smaller, more remote fishing villages, supplying local processing companies with raw material. The coastal sector is therefore highly important for regional development, as it represents a significant part of total landings and offers employment for a large number of fishermen, processors and other supporting industries.

Despite its importance, the Nordic coastal fleet has been struggling for survival for the last decades. This is why a team of stakeholders in the Nordic coastal sector came together in 2012 to facilitate networking within this important sector. With support from NORA, The Nordic Council of Ministers (AG-fisk) and the Canadian Centre for Fisheries Innovation (CCFI) they organised conferences and workshops with the aim to explore opportunities for cooperation and knowledge transfer. This led to various collaborative initiatives and has resulted in the publication of reports on the Nordic coastal sector(s), development of a mobile app to indicate to coastal fishermen how much ice is needed to properly chill and store their catches, publication of brochures in all of the Nordic languages on good on-board handling, publication of a video on the Nordic coastal sector and on-board handling, participation at various workshops and conferences relevant for Nordic coastal fisheries; as well as setting up and maintaining a web page www.coastalfisheries.net where project outcomes and other relevant material is made accessible.

The coastal sectors focused on are in Faroe Islands, Greenland, Iceland, Norway, Denmark, Sweden and Newfoundland. The sector includes almost 20 thousand coastal vessels that are catching close to 900 thousand tonnes a year, valued at 1.2 billion EUR. The fleets are highly variable, ranging from very basic traditional dinghies catching few kilos of fish each year to highly technical industrial vessels with annual catches exceeding 1,000 tonnes. The individual countries do as well have to deal with different challenges; and do each have their unique strengths, weaknesses, opportunities and threats. The opportunity for technological- and knowledge transfer is therefore substantial.

The collaboration under the umbrella of the “Coastal Fisheries in the North Atlantic” (Kystfiseri) project is now coming to official end. The aim of this report is to briefly highlight the main outcomes of the project and how the consortium has managed to meet the objectives that were set when the project started.

The conference

A workshop titled “*Coastal fisheries in the North Atlantic*” was held in Reykjavik, Iceland, on March 25th 26th 2014. The objective of the workshop was to present the main challenges that the N-Atlantic coastal sector is faced with and to explore opportunities for improvements. Representatives from the coastal sectors in Norway, Sweden, Denmark, Faroe Islands, Iceland, Greenland and Newfoundland gave presentations on the current operational environment in their sectors, as well as main challenges and opportunities. Researchers, equipment providers, processors and other stakeholders contributed to a fruitful discussion by giving presentations on various issues that are relevant for coastal fishermen and coastal communities. The presenters and the title of their talk were as follows:

- Welcome - Sveinn Margeirsson CEO of Matís (IS).
- AG fisk and Nordic cooperation – Sigurjón Arason, Nordic Counsel of Ministers (AG fisk).
- The Norwegian coastal sector – Arne Hole, Norges kystfiskarlag (NO).
- The Swedish coastal sector - Bengt Larson, Sveriges Yrkesfiskares Ek. Förening (SE).
- The Danish coastal sector - Henrik S. Lund, Danmarks Fiskeriforening (DK).
- The Faroese coastal sector - Ólavur Waag Høgensen, Meiginfélag Útróðrarmanna (FO).
- The Icelandic coastal sector - Arthur Bogason, National Association of Small Boat owners (IS).
- The Greenlandic coastal sector - Tønnes Berthelsen, KNAPK (GL).
- The Newfoundland coastal sector - Earle McCurdy, Fish, Food and Allied Workers (CA).
- The Coastal sectors in the N-Atlantic - Jónas R. Viðarsson, Matís (IS).
- Ecolabelling of small scale artisanal fisheries - Arthur Bogason. the World Forum of Fish Harvesters and Fish Workers.
- The value of Ecolabelling and other attributes - Prof Jimmy young, University of Stirling (UK).
- How can we sell the story behind the fish (WhiteFishMaLL)? Durita R. Djurhuus, Syntesa (FO).
- Can we gain price premiums for coastal catch? Martin Jaffa, Callander McDowel (UK).
- The North Atlantic Marine Cluster Project - Vilhjálmur Jens Árnason, Iceland Ocean Cluster (IS).
- Structure and economy of the Danish coastal fleet - Erling Larsen, DTU Aqua (DK).
- Socio-Economic importance of coastal fisheries - Sveinn Agnarsson & Anna Karlsdóttir, University of Iceland (IS).
- New opportunities: Coastal fisheries and tourism - Elías Guðmundsson, from Fisherman (IS).
- Ice machines for small coastal vessels - Þorsteinn Ingi Víglundsson, Thor Ice (IS).
- Bleeding tanks for small coastal vessels - Daniel Niddam, 3X Technology (IS).
- Design and production of modern coastal vessels at Seigla - Sander Nieuwstad and Björn Sverrisson, Seigla (IS).
- Auto-line systems for coastal vessels - Arne Tennøy, Mustad Autoline (NO).
- How can variable quality of fish from the Norwegian coastal fleet be explained? - Edgar Henriksen, Nofima (NO).
- Romark Seafoods experience of operating and processing seafood from coastal vessels in Greenland - Lars Mark, Romark seafoods (GL).
- OCI and its experience of processing seafood from coastal vessels in Canada - Greg Viscount, Ocean Choice International (CA).

All of the presentations are available on the [project webpage](#), both on video and pdf format. The first day of the conference ended with a panel discussion and the second day ended with working groups, where opportunities for collaboration and the next steps for the project were discussed.



Figure 1: The conference was attended by 50 stakeholders from the Nordic coastal sector

An important outcome from the conference was that attendees concluded that there are opportunities for the coastal sectors in the Nordic countries to collaborate and the technological- and knowledge transfer between countries could be of significant importance. First step would however have to be a structured analysis of the sectors, where main strengths, weaknesses, opportunities and threats would be highlighted. As results the project partners decided that this should be the next focus of the project.

Reports

Based on the conclusions of the conference it was decided to publish reports on the coastal sectors in each of the Nordic countries, which would then provide an input to an overall report on the Nordic coastal fisheries sector. These reports provide an important overview of the sectors in each of the countries, the main challenges they are facing and the opportunities they have. All of the reports are available on the [project webpage](#).



Figure 2: The reports published within the coastal fisheries in the N-Atlantic project provide an important overview of the sectors in each of the countries that were focused on

The conference and the reports concluded that there are opportunities for increased collaboration and that there are numerous technologies and other solutions, in addition to knowledge that can be shared between the sectors. The “Coastal fisheries in the N-Atlantic” consortium decided that the best way to facilitate such collaboration and sharing of knowledge would be to gather relevant information on the project webpage, attend conferences and workshops that are relevant for the sector, produce promotional material and try to connect to as many in the sector as possible. One issue that was frequently mentioned at the conference and in the reports was the fact that quality of the coastal catches can be quite variable and that a common effort in reaching out to coastal fishermen to affect onboard handling would in the long run benefit the whole sector. To facilitate that, the consortium published brochures, video and developed a mobile app; which are discussed in the following chapters.

The project webpage

The webpage www.coastalfisheries.net was set-up for the project in the early months of the project. The webpage has been the project's main dissemination tool, where all products of the project as well as any other relevant material has been made available. Matis has been responsible for the maintenance of the webpage.



Figure 3: The official project webpage www.coastalfisheries.net has been the main dissemination tool of the project

The brochures

A common issue mentioned in all of the countries was the variable quality of the coastal catches and that an understanding of the importance of correct onboard handling was lacking. It was therefore decided to publish a brochure that would explain to fishermen how to best handle the fish, taking into consideration the constraints that coastal fishermen have to operate under. The brochure was published in English, Danish, Faroese, Icelandic, Norwegian and Greenlandic.

The English, Danish, Norwegian and Faroese versions were printed in 300 copies and distributed to the relevant partners and associations. The Icelandic and Greenlandic versions were printed in 1.500 copies and sent to all the members of NASBO and KNAPK.

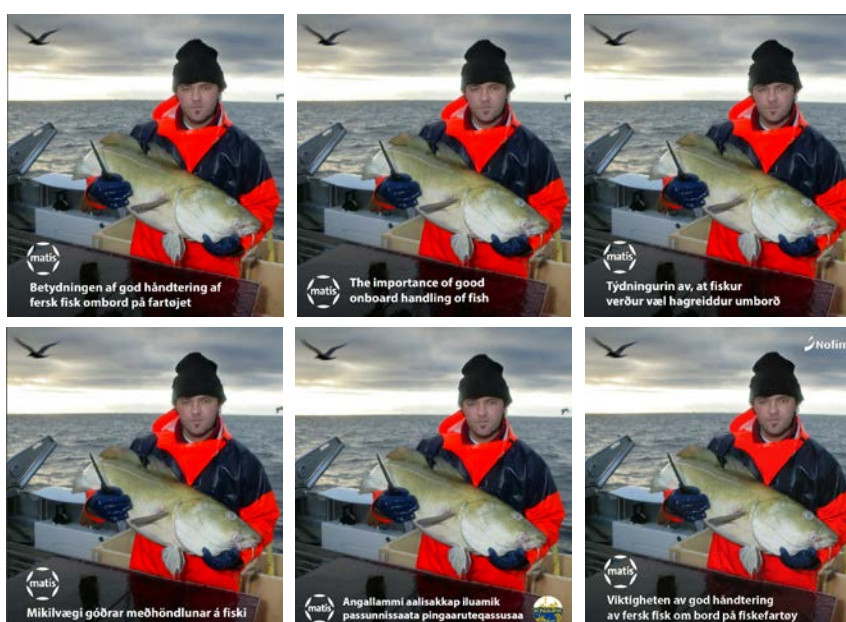


Figure 4: Brochure on the importance of good onboard handling of fish was published in six languages

A pdf version of the brochures is available on the [project webpage](#) and have also been published on the webpages of the partner institutions and associations in the project. It is therefore highly likely that majority of the coastal fishermen in the N-Atlantic have seen the brochure.

The general feedback on the brochure is positive as fishermen have confirmed that they understand better the reasons why correct handling is of importance after reading it.

The video

The project has published a [short video](#) that promotes the coastal sector to the general public and provides information on good catch handling for coastal fishermen. The contents of the video were decided after consultation with the stakeholders and combines both promotion of the many favourable characteristics of coastal fisheries and educational component targeted to the fishermen.



Figure 5: A video that promotes the coastal sector and provides education on proper onboard handling was published by the project consortium

The video has been promoted both on [the project webpage](#) and at the [webpages of the partners](#). The plan had been to publish a series of videos that would primarily draw on already published material belonging to the project partners. This was however abandoned due to budget constraints, and it was decided to make one video from scratch instead.

The mobile app – Ice calculator

Among the challenges facing the Nordic coastal sector identified within the project was the variable quality of the coastal catches. It seems that a part of coastal fishermen are not chilling their catches as well as necessary or ensuring an unbroken chill-chain. One of the reasons for this is the fact that fishermen do not fully understand the importance of rapid cooling and maintaining optimum temperature. They do also in many cases not realise how much ice is needed to chill the catch down to 0°C or how much ice is needed to maintain that temperature for a predetermined time period. This is why project partners decided to develop a mobile app that would allow fishermen to estimate how much ice is needed to chill the catch down to 0°C based on the temperature of the sea and how much additional ice is needed to maintain that temperature based on the storage temperature and the time the catch is intended to be stored. The app is available on [google play](#) and can also be used in a regular browser on the [project webpage](#).

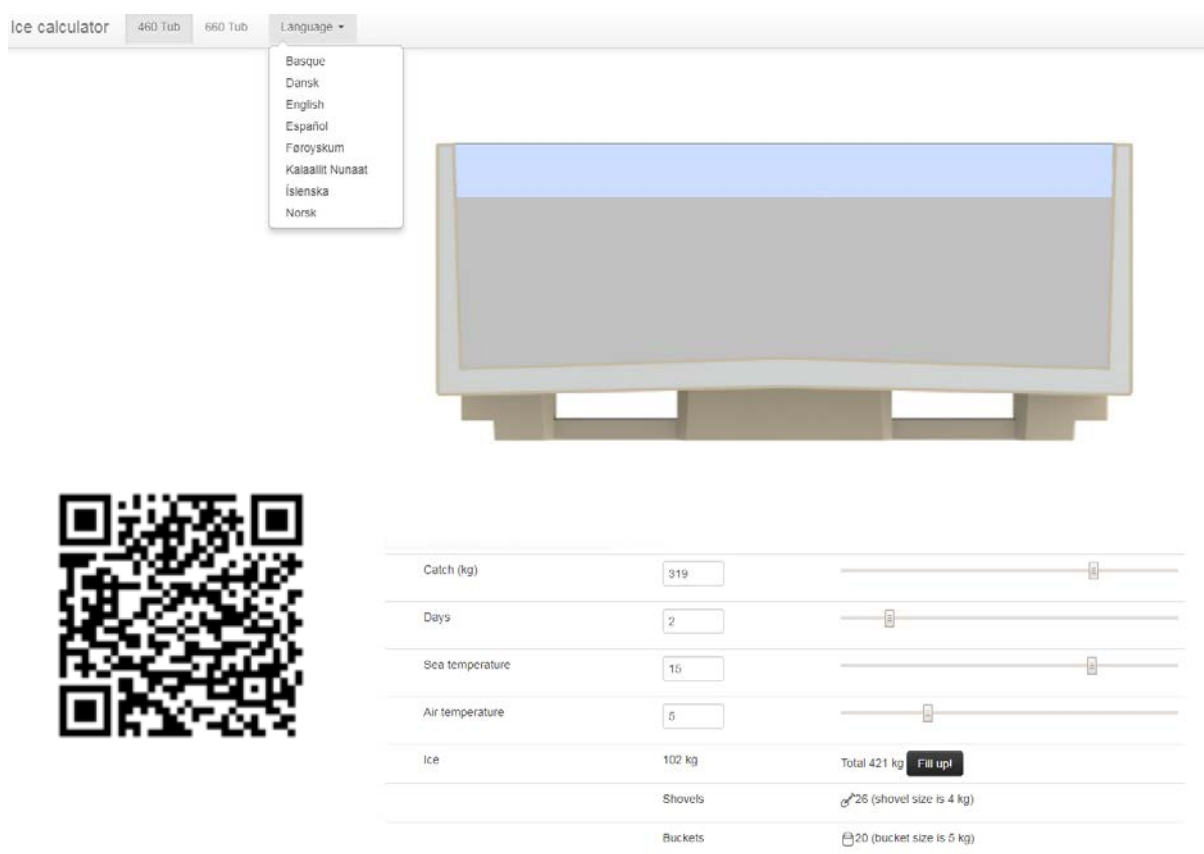


Figure 6: Screenshot of the mobile app -Ice calculator

The app is available in eight languages i.e. English, Danish, Faroese, Greenlandic, Icelandic, Norwegian, Spanish and Basque language.

Participation at conferences and workshops

Among priorities identified by the consortium was the need for disseminating information on coastal fisheries at relevant conferences, both for the purpose of sharing knowledge and for networking within the sector. Project partners did therefore attend the following conferences and workshops where they had presentations relevant for the project.

Sæmundur Elíasson from Matís attended a workshop on “process automation in seafood processing” held by CCFI in Halifax, Nova Scotia, on November 15th -16th 2016. The Newfoundland seafood sector is exploring alternatives for how to deal with increasing catches of Northern Cod, as scientist predict that the cod stock will return to former (pre-1990’s) state within few years. This will mean that Newfoundland cod catches can go from 10,000 tonnes to 200,000 tonnes in few years, but the current fleet and infrastructure is not prepared to deal with such an increase. Coastal fisheries will undoubtedly benefit from such an increase, but automation will also have to be applied; bot in the catching and processing phase. Sæmundur’s contribution to the workshop was to provide an overview of how atomisation has been applied in the Icelandic fishery. Further information on the workshop and presentations are available on the [CCFI webpage](#).

Jonas R. Viðarsson from Matís and Axel Helgason from NASBO attended the World Seafood Congress that was held in Reykjavík in September of 2017. They had a presentation during a session on seafood sustainability and food security where they discussed the importance of the Nordic coastal fleet and the many favourable characteristics of that fishery. They also touched upon some of the challenges that the sector is facing. The highlights of the [SEAFOOD SUSTAINABILITY & FOOD SECURITY](#) session is available on www.wsc2017.com.

Jonas R. Viðarsson from Matís and Axel Helgason from NASBO attended a conference titled “Cod - Building the Fishery of the Future” that was held in Gander, Newfoundland, on November 28th - 29th 2017. The conference focused on the rebuilding of the Northern cod stock and how Newfoundland and Labrador can create a competitive, sustainable and viable cod fishery for the future. The conference presented the latest information on the current and expected future state of the resource, the global markets for cod and other white-fleshed fish, how other nations are harvesting, processing and marketing fish products, and the current profile of the Newfoundland and Labrador fishery.

Jonas and Axel provided an overview of how the coastal sector and the processing are operated in Iceland and facilitated knowledge transfer while during so. Further information on the conference, along with all of the presentations (and voice recordings of them) are available on the [CCFI webpage](#).



Figure 7: Jonas R. Viðarsson from Matís, Ögmundur Knútsson from University of Akureyri and Axel Helgason from NASBO were among presenters at the cod conference in Newfoundland

Spin-off projects

The networking facilitated by the “Coastal fisheries in the N-Atlantic / Kystfiskeri” project has led to variable collaboration, both on national- and international scale. The project has brought stakeholders in the Nordic coastal sector together and provided a platform for starting different initiatives. Coastal fishermen have gained new knowledge and technology providers have been introduced to potential customers. The project has also led to spin-off projects, such as the Kystsamfund project that was co-funded by the Nordic Council of Ministers and a national project that ran for two years in Iceland where the aim was to incentivise fishermen to improve onboard handling.

The Kystsamfund project

The Kystsamfund (Nordic coastal fisheries and communities) project was a spin-off project from the Coastal fisheries in the N-Atlantic project. The project ran from late 2014 to end of 2017 and focused on regional development and coastal fisheries. The consortium was largely made up by the same partners as in the Kystfiskeri project and the two projects shared the same webpage. The main products of that project were a [conferences held during the Icelandic Seafood Exhibition in 2014](#) and a report titled “[NORDIC COASTAL FISHERIES AND COMMUNITIES Status and future prospects](#)” that was published by the Nordic Council of Ministers in beginning of 2018.

BeautifulFish / Fallegurfiskur

Matís and NASBO joined forces in 2016 and 2017 in attempt to positively incentivise coastal fishermen in Iceland to improve onboard handling and quality of their catches. This was done by setting up [Facebook](#) and [Instagram](#) pages where fishermen could upload pictures of proper handling and where information on good practise would be shared. A competition for the best picture was a part of this initiative, where the winner was given a GoPro camera at the end of the summer fishing season 2016 and 2017. As part of this campaign all coastal fishermen in Iceland were sent a brochure on good onboard handling, thermometer and a letter signed by the CEO of NASBO and Matís where fishermen were urged to take part in the BeautifulFish campaign.



Figure 8: A competition for the best picture was a part of the BeautifulFish campaign, where the winner was given a GoPro camera at the end of the summer fishing season 2016 and 2017



Figure 9: As part of the BeautifulFish campaign all coastal fishermen in Iceland were sent a brochure on good onboard handling, thermometer and a letter signed by the CEO of NASBO and Matis where fishermen were urged to take part in the campaign

The BeautifulFish campaign turned out to be quite successful in reaching the target audience and to promote a positive message on coastal fisheries and good quality fish. The engagement of fishermen with uploading pictures could however have been better.

Progress towards NORA funded tasks

As with all research & innovation projects a key challenge is to secure funding for the intended tasks. The project partners are therefore extremely thankful that the Nordic Council of Ministers (AG-fisk), the Canadian Centre for Fisheries Innovation (CCFI) and the Nordic Atlantic Cooperation (NORA) decided to fund the project.

As this report constitutes as the final report to NORA; it is necessary to discuss how the tasks funded by NORA have met with the original project plan. The NORA part of the project was broken into three work packages (WP):

1. The first WP was to map the coastal sectors in the Faroe Islands, Greenland, Iceland, Norway and Newfoundland & Labrador. This task was completed successfully in 2015 with publication of reports on coastal fisheries for each of the participating countries, as well as a common report on coastal fisheries in the N-Atlantic. All the reports are available on the [project web-page](#).
2. The second WP was to facilitate networking within the N-Atlantic coastal sector. This was done by establishing a web-page www.coastalfisheries.net for dissemination of project results and other relevant material and by hosting a workshop where relevant stakeholders were invited to. The proceedings from the workshop are available [here](#) and the list of attendees can be seen [here](#). The networking was followed up with discussions and exchange of information between project participants and other stakeholders, visits between partners, publications of news items and establishment of a follow-up projects and applications. The project web-page will continue to be maintained by Matis for the next few years.
3. The final WP included tasks that were identified as priority by the project consortium, based on input and results from the first two WPs. These tasks were primarily focused on knowledge- and technology transfer between the partner countries, including by publishing of brochures and video that are relevant for the target audience, conference & workshop attendance to present relevant information on the coastal sector; and general facilitation of networking. According to the original plan there were five tasks identified for this WP:
 - a. Publishing and distributing a brochure on proper catch handling onboard small vessels. This brochure has been published in six languages and distributed as such to the target audience. The brochures are available on the project [webpage](#).
 - b. Development / adaption of a mobile app to estimate how much ice is needed to cool and store fish onboard coastal vessels. The app has been developed and is available in eight languages on the project [webpage](#).
 - c. Publication of a one-pager in the languages of the participating partners that should be sent to all the members of the participating associations. This was physically done in Iceland and Greenland where all members of NASBO and KNAPK got a one-pager and the brochure sent by regular mail. For the other countries involved it was left to the associations to disseminate the project results.
 - d. The intention was to publish a series of short videos targeted for the coastal sector and the plan was to use already available material that project partners have in their

possession. These videos were intended to promote the coastal sector to the general public and to provide information on catch handling for fishermen. After careful consideration it was however decided to make one video from scratch that would cover both. The plan was also to translate the video to Icelandic, Norwegian, Faroese and Greenlandic; but that has not yet been done due to lack of resources. The project partners are though still considering if that should be done. The video is available on the [project webpage](#) and on [YouTube](#).

- e. Participation at relevant conferences and workshops to promote coastal fisheries and share knowledge. Project partners have attended and presented at a CCFI workshop in Halifax 2016 on “process automation in seafood processing”, at WSC 2017 in Reykjavík and at CCFI conference in Gander 2017 on “Cod - Building the Fishery of the Future”.

All of the tasks have therefore been completed, but it is though acknowledged that some of the tasks were only partly achieved.

Discussion

The “coastal fisheries in the N-Atlantic” or “Kystfiskeri” project was primarily intended to facilitate networking and knowledge transfer among stakeholders in the Nordic coastal sector. The project organised and took part in conferences and workshops; gathered, analysed and published information on the coastal sectors in seven countries around the N-Atlantic; published reports, brochures and a video that promote the sector and share information on best practises; and facilitated networking by bringing people working in the sectors together. Project partners are relatively happy with the outcome and have concluded that the initiative has been successful in meeting the original expectations they had to the project.