JRC SCIENCE FOR POLICY REPORT

Scientific, Technical and Economic Committee for Fisheries (STECF)
-
Social dimension of the CFP (STECF-20-14)

Edited by Ralf Döring, Mike Fitzpatrick & Jordi Guillen

Joint Research Centre

EUR 28359 EN

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Contact information

Name: STECF secretariat

Address: Unit D.02 Water and Marine Resources, Via Enrico Fermi 2749, 21027 Ispra VA, Italy

E-mail: jrc-stecf-secretariat@ec.europa.eu

Tel.: +39 0332 789343

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JRC123058

EUR 28359 EN

PDF	ISBN 978-92-76-27169-7	ISSN 1831-9424	doi:10.2760/255978
STECF		ISSN 2467-0715	

Luxembourg: Publications Office of the European Union, 2020

How to cite this report Scientific, Technical and Economic Committee for Fisheries (STECF) – Social dimension of the CFP (STECF-20-14)., Doering, R., Fitzpatrick, M. and Guillen Garcia, J. editor(s), EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-27169-7, doi:10.2760/255978, JRC123058

Authors:

STECF advice:

Abella, J. Alvaro; Bastardie, Francois; Borges, Lisa; Casey, John; Catchpole, Thomas; Damalas, Dimitrios; Daskalov, Georgi; Döring, Ralf; Gascuel, Didier; Grati, Fabio; Ibaibarriaga, Leire; Jung, Armelle; Knittweis, Leyla; Kraak, Sarah; Ligas, Alessandro; Martin, Paloma; Motova, Arina; Moutopoulos, Dimitrios; Nord, Jenny; Prellezo, Raúl; O'Neill, Barry; Raid, Tiit; Rihan, Dominic; Sampedro, Paz; Somarakis, Stylianos; Stransky, Christoph; Ulrich, Clara; Uriarte, Andres; Valentinsson, Daniel; van Hoof, Luc; Vanhee, Willy; Villasante, Sebastian; Vrgoc, Nedo

EWG-20-XX report:

Döring, Ralf; Fitzpatrick, Mike; Ballesteros, Marta; Brigaudeau, Cecile; Carpenter, Griffin; Delaney, Alyne Elizabeth; Frangoudes, Katia; Goti, Leyre; Guillen, Jordi; Jackson, Emmet; Jung, Armelle; Kinds, Arne; Kraan, Marloes; Lasner, Tobias; Malvarosa, Loretta; Nicheva, Simona; Pascual-Fernandez, Jose; Ribes Moreno, Isabel; Said, Alicia; Tzouramani, Irene; van Hoof, Luc.

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Abstract

Commission Decision of 25 February 2016 setting up a Scientific, Technical and Economic Committee for Fisheries, C(2016) 1084, OJ C 74, 26.2.2016, p. 4–10. The Commission may consult the group on any matter relating to marine and fisheries biology, fishing gear technology, fisheries economics, fisheries governance, ecosystem effects of fisheries, aquaculture or similar disciplines. This report further develops the methodologies for the collection and analysis of social data in fisheries, to be applied for the collection of social data for the data call 2021 and the subsequent analysis and use of these data. Additionally, the report assesses the impact of the Common Fisheries Policy Regulation and the implementation of its Articles 5.2 (access to waters) and 16 and 17 (fishing opportunities) of Regulation (EU) No 1380/2013 on the social situation of small-scale coastal fishers and their communities.

SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF) - Social dimension of the CFP (STECF-20-14)

Background provided by the Commission

Fisheries throughout Europe have undergone major structural changes, leading to important social consequences for both individual fishers as for fishing communities. In several fishing communities and regions of the EU, the social importance of the fisheries sector outweighs its direct economic contribution. There is an increasing awareness that more attention should be paid to the social dimension of fisheries, emphasised by the mission letter of Commissioner Sinkevičius explicitly mentioning the need to address the social dimension .

The collection of social indicators for the EU fishing fleet, aquaculture- and fish processing industry was introduced by Regulation (EU) No 2017/1004 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the CFP (EU-MAP). The social variables, to be collected every three years from 2018 onwards, are: Employment by gender; Full Time Employment (FTE) by gender; Unpaid labour by gender; Employment by age; Employment by education level; Employment by nationality; Employment by employment status; Total FTE National.

STECF Expert Working Group (EWG) 19-03 reviewed the social data in the EU fisheries sector collected under the Data Collection Framework (DCF / EU-MAP) in 2018, provided an EU level overview and national chapters describing the data, and discussed potential improvements and refinements in the collection of social data in EU fisheries. The EWG 19-03 report provided a comprehensive overview of the social data collected under the EU MAP for the EU fishing sector on the social and demographic characteristics of the labour force both at EU and Member States level over the year 2017.

Request to the STECF

The STECF is requested to:

1. review the report of the STECF Expert Working Group 20-14, evaluate the findings and assess the delivery by the STECF Expert Working Group on the terms of reference and make any appropriate comments and recommendations with a view to enhancing STECF support to the social dimension of fisheries.
2. provide recommendations on the next actions to be taken to achieve a sound methodology for the analysis of social data allowing for the development of a time-series and trends and the use of social data in assessing the social impact of the Common Fisheries Policy as well as of envisaged fisheries measures. This in coherence with the work of other STECF activities, in particular in the economic area.
3. pay a particular attention to the possibility of including in such methodology national and community profiles, duly taking into account already existing sources and ongoing initiatives, for instance those by the ICES working group on social indicators.

STECF observations

STECF Expert Working Group (EWG) 20-14 was tasked with building upon the findings of EWG 19-03. The EWG was requested to further develop the methodologies for the collection and analysis of social data in fisheries, to be applied for the collection of social data for the data call 2021 and the subsequent analysis and use of these data. Additionally, the EWG was tasked with assessing the impact of the Common Fisheries Policy Regulation and the implementation of its Articles 5.2 (access to waters) and 16 and 17 (fishing opportunities) of Regulation (EU) No 1380/2013 on the social situation of small-scale coastal fishers and their communities.

The EWG 20-14 held a virtual meeting, from the 28th of September until the 2nd of October 2020. The meeting was attended by 17 invited experts, 3 members of STECF, 1 expert from JRC, 1 member of the European Commission DGMARE and three observers.

Scope of the work
STECF notes that the TOR for the work of EWG 20-14 consists of two parts. The first part reflected by TORs 1-3, calls for an analysis of impact of the effects on society of policy implementation. The second part of the TOR, as reflected by TOR 4 and 5 of the EWG, is more closely related to the work implemented by EWG 19-03 and has a focus on further methodological development.

STECF notes that this divide in the TORs, between assessment and methodology development, is also reflected in the EWG report. Two separate groups worked on the different parts of the TOR. Especially feedback between implementation of TORs 1-3 and 4-5, given time restrictions was therefore suboptimal.

In order to facilitate the work of the EWG 20-14 the Commission had prior to the meeting issued a voluntary questionnaire to the MS which addressed (i) the use of transparent and objective criteria including those of an environmental, social and economic nature in allocating the fishing opportunities available to them, (ii) the actual criteria used in the allocation of fisheries and the methodology applied to underpin these criteria, (iii) the efforts undertaken within the allocation system to provide incentives to fishing vessels deploying selective fishing gear or using fishing techniques with reduced environmental impact and (iv) whether impact/effectiveness studies were carried out for the national allocation system.

STECF acknowledges that 16 MS replied to the questionnaire but observes that the completeness of reply varies. The EWG was though able to rely on the additional knowledge and preparatory work of the experts present to produce information on, for example, the national system of allocating fishing opportunities, the division of fishing opportunities between the SSCF and LSF and developments of these over time. During the meeting, experts performed additional analyses of EU regulations, especially TAC and quota regulations, additional literature review and expert knowledge were also used for the analysis.

STECF observes, from implementation of the assessments under TORs 1-3, that it is apparent that, generally, for the assessment of the social impact of fisheries management measures there is a lack of quantitative and qualitative data available. To implement the assessment, the information obtained to a large extend depended on the input of the available experts.

Additionally, STECF observes that for those instances where quantitative and qualitative data was available, there is a clear need of having a national expert available to interpret and assess the data in the national and local context.

STECF notes that if the suggestions for National and Community profiling of the fishing sector, as recommended under TORs 4 and 5, would be operationalised, this would indeed allow for more data and information to become available to implement assessments of the social impacts of fisheries management measures.

Findings
Effects of policy implementation (TOR 1-3)

Concerning the analysis of (i) the impact of restrictions put in place by Member States under Article 5.2 of Regulation (EU) No 1380/2013, STECF notes that the EWG found no MS reported any conflicts regarding the special rule to allow vessels traditionally fishing in the area in the territorial waters (6-12 nm) that is foreseen in Art. 5.2. However, the EWG also noted that it was not possible to determine whether privileged access to coastal waters (i.e. access limited to vessels of the small-scale segments/coastal fisheries, e.g. Plaice Box in the North Sea) has an effect on the (economic) development of specific fleet segments. Assessing this would require to compare the current situation with a situation without such a restriction. After more than 20 years of e.g. the Plaice box, the sector has adapted to this situation, and such comparison data do not exist. It might be possible, however, to compare via simulation the current situation with a situation where the restriction of the Plaice Box would be removed.

Concerning the analysis of Art. 17 how social criteria and criteria based upon the contribution to the local economy have been used by MS when allocating the fishing opportunities available to them, STECF notes that the EWG found many examples of Member States using social criteria in the allocation of fishing opportunities. However, there does not appear to be any clear trend in the use of social criteria based on geography, type of fishing opportunity, or political culture. It is also clear that not two MS use the same system of allocating fishing opportunities or even the same mix of social criteria.

Concerning the analysis of the impact of the national fishing opportunities allocation system on the social sustainability of the national fishing sector, and in particular of small-scale coastal fishers and their communities, STECF notes that the EWG found that the information provided by the MS combined with the knowledge of the available experts was useful for the initial analysis. However, the EWG noted that there is a potential difference between the fishing opportunity allocation criteria used, the actual quota allocation and the possibilities for fleets to effectively fish the quota. National and Community profiles of the fisheries sector could assist over time in more clearly analysing the utilisation and impacts of these allocation criteria.

STECF notes that the TORs 1-3 stipulated an analysis of impact of measures and practices in general, with a specific focus on the effects on the SSCF segment. Especially the allocation of fishing opportunities and the distribution of fishing rights between SSCF and LSF in the Member States, and whether rights move from small- to large-scale vessels, needed to be analysed.

STECF observes that although MS may not directly draw a direct line between Art. 17 of the basic regulation and their national quota allocation systems, they do use or have used criteria in the allocation process which could be labelled as 'social criteria' (e.g. a special fisheries fund in Denmark for SSCF as percentage of the overall quota). Some of the criteria were already applied before the introduction of Art. 17, like historical track record of catches, that may not be associated directly with social aspects when implemented, but STECF observes is de facto such a criterion, with potentially positive or negative effects on different fleet segments.

STECF observes that to analyse the impact of the system of allocation of fishing opportunities it is important that the entire system of fishing opportunities is taken into consideration. For example, STECF notes that in analysing allocation of quota (as a means of fishing opportunity allocation) between the SSCF and the LSF the allocation should be analysed in combination with access to other resources that might be available for small scale fleets, (e.g. non-quota species and access rights to specific fishing grounds). Also, the definition of small scale fleets might be different from the general EU definition for quota allocation purposes and might be misleading when compared between countries, (e.g. in the STECF AER the small scale fleet is defined as vessels <12 using passive gears, while for quota distribution the 10m threshold is used by some MS).

Additionally, STECF notes that traditionally in the analysis of differences between impacts of e.g. quota allocation schemes on the SSCF and the LSF, the importance of the SSCF is mainly defined in terms of the social dimension as being an important contributor to the local community. Yet also from an economic perspective the SSCF shows a twice as high productivity in terms of use of capital and labour compared to the LSF (as shown in the STECF AER report 20-06). This implies that the SSCF's use of the production factors (capital and labour) is more efficient, derived

probably from shorter value chains and a larger focus on quality, while taking advantage of high-value non-TAC species.

Hence STECF notes that, to analyse impacts of measures, the effects should be considered taking the relevant parts of the whole socio-ecological fisheries system into consideration. Additionally, there should be a realisation that systems vary widely between MS. To support the analysis within and between countries, STECF notes that it is important to provide clear and consistent definitions of terms and concepts used. One of the challenges lies in the operationalisation of the concepts of reliance and resilience, two key concepts to measure (long term) impacts of policy on fishing communities, as defined by EWG 19-03 and ICES WGSOCIAL. Progresses pursued by ICES WGSOCIAL for devising a universal definition for these concepts, while providing an appropriate methodology to operationalise and quantify these concepts in the national context, may allow for operational indicators of social impact comparable between MS to be defined and may be used by future STECF EWGs on social data.

Methodological development for data collection and analysis of social data (TOR 4-5)
STECF notes that in order to facilitate the collection of social data, as part of the 2021 data call, there is a need to clarify variables at an early stage in 2021 before MS begin to collect and report the next set of social variables. Next to using similar age brackets across for example the Social data report, the AER and those used by Eurostat, there is the need for PGECON to devise clear operational definitions for issues such as paid vs unpaid labour and the category 'other income'. Specifically, related to the latter, STECF observes it is important to consider that next to having a focus on the fishing operation, hence a focus on the vessel owner, his/her enterprise and his/her family circumstances, there is also a necessity to consider the circumstances of, for example, crew members but also other (family) members relying on the fishing operation.

The EWG advises thus that any new variable to collect should be defined together with the DCF Planning Group on Economics Issues (PGECON), using information also from the ICES Working Group on Social indicators (WGSOCIAL). STECF endorses the suggestion to define these variables, or make significant changes to the definition of existing variables, to be discussed and agreed at the social variable subgroup of PGECON planned early in 2021 (a date is not decided yet). This group should involve social scientists as well as data collectors and/or end users.

Concerning the development of methodologies for the expansion of the social analysis to include national profiles and specific fishing community social profiles, STECF notes that the EWG developed a detailed template for the national profiles with a comprehensive list of descriptors, and an outline of potential data sources, the majority of which are available at sources such as Eurostat, DCF, Eurofound. As for the Community profiles, which is a much more detailed, and hence labour intensive, undertaking than the compiling of national profiles, the EWG report provides guidance to MS who wish to conduct community profiles. STECF observes the guidelines attempt to ensure that community profiling initiatives across Europe address some common issues and questions without being overly prescriptive.

STECF observes that the further detailing of National Profiles and Community Profiles has been appropriate and has progressed in defining a methodology and format apt for implementation by the MS. The National Profiles are understood to depict the national structure of the fishing fleet(s), including social, cultural and economic aspects of the fisheries and witnessed trends, developments and (social) issues. STECF agrees that the National profile should be updated once every three years to have value. STECF notes that the National Profiles should be developed in conjunction with data collected under the DCF and as, for example, reported in the AER. However, STECF notes that the social profile can provide a more profound description and analysis of, for example, the national fishing opportunity allocation system.

STECF observes that the proposed Community Profiles, to be collected once every 5 years for selected communities, are a necessary addition to the National Profiles. They will generate data to analyse a more long term and more profound impact of measures on the fishing communities. STECF notes that the proposed methodology by the EWG for the construction of such Community Profiles is appropriate.

STECF conclusions

STECF concludes for TOR 1 that the EWG answered the TORs and acknowledges that the analysis produced is of a high standard.

STECF concludes that the discussions and the proposals of the EWG 20-14 should be considered by the Commission and MS when revising the EU-MAP and developing the social indicators for the 2021-2022 period.

In response to TOR 2 and TOR 3 STECF concludes that for the next period three main activities need to be addressed:

(i) Unification of concepts, definitions and variables
(ii) Development of National Profiles
(iii) Development of Community Profiles

STECF concludes that the report provides a detailed description and methodology to enable the construction of both National and Community profiles. To further this development, STECF concludes that there is a necessity to produce clear and unified definitions of concepts, definitions and variables used. This unification should be achieved across all bodies currently involved in the development of social indicators such as STECF, PGECON and ICES WGSOCIAL. In order to do so it is proposed to convene a meeting of the Social variables sub-group of PGECON in early 2021. The meeting should be held as early as possible so as to provide clear guidance to MS before they begin their 2021 social data collection. Meeting attendees should include representatives of PGECON, STECF and ICES WGSOCIAL and should involve social scientists as well as data collectors and/or end users. The group should be tasked with defining concepts and variables following the recommendations of STECF EWG 19-03, 20-14 and relevant PGECON meetings.

STECF concludes that to be able to properly analyse and advise on impacts of fisheries management measures these National and Community profiles are a necessity. As proven by EWG 20-14, describing and analysing the effects of, for example, the impact of an allocation system of fishing opportunities, between the SSCF and LSF requires this information. Nevertheless, in parallel with the analysis of the AER, the analysis of social indicators will always require national expertise for a proper contextual analysis.

As for the development of National Profiles, it is anticipated that the National Profiles should be ready to be used in the next round of social data analysis in 2022. EWG 20-14 has already provided the outline of such National Profiles. To facilitate this process the following steps are suggested:

(i) Several experts will be tasked with preparing example national profiles for selected countries. An ad hoc contract may be useful in ensuring that this task is done in a coherent and timely manner.
(ii) In 2021 a dedicated EWG of STECF should be convened. This EWG should:
    a. Assess whether the example National profiles result in usable data and information. If required, the EWG may suggest necessary changes to the National Profile format.
    b. Assess possible discrepancies and comparability of the National Profiles across MS.
    c. Assess the extent to which the data produced are fit for purpose of analysing social impacts of fisheries management measures.
    d. Advise on further actions to be taken. Such as on the role of required experts in populating the National Profiles and analysing the outcome.
    e. By using the example National Profiles, further develop indicators for Reliance and Resilience, as suggested by EWG 19-03.

(iii) Based on the outcome of the EWG the final format for the National Profiles will be established and should be used as far as possible by the MS already in the upcoming Data Collection process.

As for the development of the Community Profiles, this development will follow the process of establishing and populating the National Profiles in 2022. Based on the experiences during 2021 and 2022 of working with the National Profiles the methodology as suggested by EWG 20-14 will be further developed.

The Community Profiles can be perceived as further detailing the analysis for each sea basin indicating the common strengths and weaknesses of the sea basin regarding the objectives of the CFP which are currently developed under the EMFF. It is suggested for the 2022-2023 period to test the implementation of Community Profiles, in line with EWG 20-14 recommendations, in several pilots possibly in partnership with Fisheries Local Action Groups (FLAGs).

Contact details of STECF members

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Name	**Affiliation[1]**	**Email**
Abella, J. Alvaro	Independent consultant	aabellafisheries@gmail.com
Bastardie, Francois	Technical University of Denmark, National Institute of Aquatic Resources (DTU-AQUA), Kemitorvet, 2800 Kgs. Lyngby, Denmark	fba@aqua.dtu.dk
Borges, Lisa	FishFix, Lisbon, Portugal	info@fishfix.eu
Casey, John	Independent consultant	blindlemoncasey@gmail.com
Catchpole, Thomas	CEFAS Lowestoft Laboratory, Pakefield Road, Lowestoft, Suffolk, UK, NR33 0HT	thomas.catchpole@cefas.co.uk
Damalas, Dimitrios	Hellenic Centre for Marine Research, Institute of Marine Biological Resources & Inland Waters, 576 Vouliagmenis Avenue, Argyroupolis, 16452, Athens, Greece	shark@hcmr.gr

Name	**Affiliation[1]**	**Email**
Daskalov, Georgi	Laboratory of Marine Ecology, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences	Georgi.m.daskalov@gmail.com
Döring, Ralf (vice-chair)	Thünen Institute [TI-SF] Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Sea Fisheries, Economic analyses Herwigstrasse 31, D-27572 Bremerhaven, Germany	ralf.doering@thuenen.de
Gascuel, Didier	AGROCAMPUS OUEST, 65 Route de Saint Brieuc, CS 84215, F-35042 RENNES Cedex, France	Didier.Gascuel@agrocampus-ouest.fr
Grati, Fabio	National Research Council (CNR) – Institute for Biological Resources and Marine Biotechnologies (IRBIM), L.go Fiera della Pesca, 2, 60125, Ancona, Italy	fabio.grati@cnr.it
Ibaibarriaga, Leire	AZTI. Marine Research Unit. Txatxarramendi Ugartea z/g. E-48395 Sukarrieta, Bizkaia. Spain.	libaibarriaga@azti.es
Jung, Armelle	DRDH, Techopôle Brest-Iroise, BLP 15 rue Dumont d'Urville, Plouzane, France	armelle.jung@desrequinsetdeshommes.org
Knittweis, Leyla	Department of Biology, University of Malta, Msida, MSD 2080, Malta	Leyla.knittweis@um.edu.mt
Kraak, Sarah	Thünen Institute of Baltic Sea Fsheries, Alter Hafen Süd 2, 18069 Rostock, Germany.	sarah.kraak@thuenen.de
Ligas, Alessandro	CIBM Consorzio per il Centro Interuniversitario di Biologia Marina ed Ecologia Applicata "G. Bacci", Viale N. Sauro 4, 57128 Livorno, Italy	ligas@cibm.it; ale.ligas76@gmail.com
Martin, Paloma	CSIC Instituto de Ciencias del Mar Passeig Marítim, 37-49, 08003 Barcelona, Spain	paloma@icm.csic.es
Motova, Arina	Sea Fish Industry Authority, 18 Logie Mill, Logie Green Road, Edinburgh EH7 4HS, U.K	arina.motova@seafish.co.uk

Name	**Affiliation[1]**	**Email**
Moutopoulos, Dimitrios	Department of Animal Production, Fisheries & Aquaculture, University of Patras, Rio-Patras, 26400, Greece	dmoutopo@teimes.gr
Nord, Jenny	The Swedish Agency for Marine and Water Management (SwAM)	Jenny.nord@havochvatten.se
Prellezo, Raúl	AZTI -Unidad de Investigación Marina, Txatxarramendi Ugartea z/g 48395 Sukarrieta (Bizkaia), Spain	rprellezo@azti.es
O'Neill, Barry	DTU Aqua, Willemoesvej 2, 9850 Hirtshals, Denmark	barone@aqua.dtu.dk
Raid, Tiit	Estonian Marine Institute, University of Tartu, Mäealuse 14, Tallin, EE-126, Estonia	Tiit.raid@gmail.com
Rihan, Dominic (vice-chair)	BIM, Ireland	rihan@bim.ie
Sampedro, Paz	Spanish Institute of Oceanography, Center of A Coruña, Paseo Alcalde Francisco Vázquez, 10, 15001 A Coruña, Spain	paz.sampedro@ieo.es
Somarakis, Stylianos	Institute of Marine Biological Resources and Inland Waters (IMBRIW), Hellenic Centre of Marine Research (HCMR), Thalassocosmos Gournes, P.O. Box 2214, Heraklion 71003, Crete, Greece	somarak@hcmr. gr
Stransky, Christoph	Thünen Institute [TI-SF] Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of Sea Fisheries, Herwigstrasse 31, D-27572 Bremerhaven, Germany	christoph.stransky@thuenen.de
Ulrich, Clara (chair)	IFREMER, France	Clara.Ulrich@ifremer.fr
Uriarte, Andres	AZTI. Gestión pesquera sostenible. Sustainable fisheries management. Arrantza kudeaketa jasangarria, Herrera Kaia - Portualdea z/g. E-20110 Pasaia – GIPUZKOA (Spain)	auriarte@azti.es

Name	**Affiliation[1]**	**Email**
Valentinsson, Daniel	Swedish University of Agricultural Sciences (SLU), Department of Aquatic Resources, Turistgatan 5, SE-45330, Lysekil, Sweden	daniel.valentinsson@slu.se
van Hoof, Luc	Wageningen Marine Research Haringkade 1, Ijmuiden, The Netherlands	Luc.vanhoof@wur.nl
Vanhee, Willy	Independent consultant	wvanhee@telenet.be
Villasante, Sebastian	University of Santiago de Compostela, Santiago de Compostela, A Coruña, Spain, Department of Applied Economics	sebastian.villasante@usc.es
Vrgoc, Nedo	Institute of Oceanography and Fisheries, Split, Setaliste Ivana Mestrovica 63, 21000 Split, Croatia	vrgoc@izor.hr

REPORT TO THE STECF

EXPERT WORKING GROUP ON Social dimension of the CFP (EWG-20-14)

Virtual Meeting, 28 September - 02 October 2020

This report does not necessarily reflect the view of the STECF and the European Commission and in no way anticipates the Commission's future policy in this area

1 INTRODUCTION

This report on the social dimension of the CFP is the first report specifically addressing social aspects of the CFP. It gives in the first part (TOR 1-3) an overview on specific regulations regarding access to coastal waters under Art. 5.2 of the basic regulation (Regulation EU 1380/2013), whether member states use social criteria for the distribution of fishing opportunities (Art. 16 and 17 of the basic regulation), and describe impacts of the different distribution systems of the fishing opportunities.

In a second part we address improvements in the data collection on social variables for the fishing fleet (TOR 4) and elaborate how national and community profiles could look like (TOR 5).

This publication includes a short introduction to the chapters on TOR 1-3 and a chapter for each of the five TOR.

The report has been produced by experts from DG JRC and a group of experts convened under the Scientific, Technical and Economic Committee for Fisheries (STECF). The group consisted of 20 independent experts. The list of experts can be found in section 8.

1.1 Terms of Reference for EWG-20-14

Background and general objectives

The current legal framework of the Common Fisheries Policy (CFP) refers to labour conditions, health and safety, as well as to job creation and training, social inclusion and a fair standard of living, putting a particular emphasis on coastal fishers and socio-economic aspects. Fisheries throughout Europe have undergone major structural changes, leading to important social consequences for both individual fishers as for fishing communities. In a number of fishing communities and regions of the EU, the social importance of the fisheries sector outweighs its direct economic contribution.

There is an increasing awareness that more attention should be paid to the social dimension of fisheries. After a first social data collection in 2019, EWG 19-03 produced a report on social data in the fisheries sector, published in September 2019. Furthermore, when referring to the 2022 reporting on the functioning of the CFP, the mission letter of Commissioner Sinkevičius explicitly mentions the need to address the social dimension.

Against this background, the main objectives of this WG are:

- To assess the impact of the Common Fisheries Policy Regulation and in particular the implementation of its Articles 5.2 (access to waters) and 16 and 17 (fishing opportunities) on the social situation of small-scale coastal fishers and their communities.
- To build upon the findings of EWG 19-03 and further develop the methodologies for the collection and analysis of social data in fisheries, to be applied for the collection of social data for the data call 2021 and the subsequent analysis and use of these data.

STECF is requested to:

- Assess the contribution of restrictions put in place by Member States under Article 5.2 of Regulation (EU) No 1380/2013 to the preservation of coastal fleets' traditional fishing activities to maintain the social and economic infrastructure of these areas[1].
- Assess for each Member State whether and, if so, how social criteria and criteria based upon the contribution to the local economy have been used by Member States when allocating the fishing opportunities available to them (Article 17 CFP).
- Assess the impact of each of the national quota allocation systems on the social sustainability of the national fishing sector and in particular of small-scale coastal fishers and their communities. One specific aspect of the assessment should be the distribution of fishing rights between Small-Scale Fisheries (SSF) and Large-Scale Fisheries (LSF) in the Member States and whether rights move from small- to large-scale vessels.
- Provide recommendations, building upon those of EWG 19-03, on the social data gathering as part of the 2021 data call and propose a methodology tool for the analysis of social data obtained from the DCF combined with data from other sources such as ESTAT. This tool should allow the development of a time-series and trends and the use of social data in assessing the social impact of envisaged fisheries measures. Improvements in how data on specific variables e.g. unpaid labour by gender, could be collected, further stratified or disaggregated and analysed should be assessed. Particular attention needs to be paid to the coherence and consistency with the data gathered for, and the assessment provided in the Annual Economic Report and previous work carried out by PGECON on e.g. unpaid labour. This element should also be informed by work done in ICES Working Group on social indicators in fisheries.
- STECF plenary 19-02 in reviewing EWG 19-03 concluded that in order to be able to properly analyse and interpret social data collected the data should be put in context through the provision of national and/or local fisheries sector profiles. The EWG should propose methodologies for the expansion of the social analysis to include a) national profiles which may include information on fisheries and quota management regimes, employment status of fishers, summaries of existing community profiles etc. and b) specific fishing community social profiles where possible.

[1] The 2011 Commission report (COM(2011)418) on the former CFP Regulation states that the original objectives of these restrictions were: a) conservation of fish resources through allowing only small-scale coastal fleets into the area and b) preservation of coastal fleets' traditional fishing activities to maintain the social and economic infrastructure of these areas.

2 INTRODUCTION RESPONSE TOR 1-3

In 2022 DG Mare will have to publish a report on the functioning of the CFP which includes the assessment of the social aspects of the basic regulation. Commissioner Sinkevičius demanded for the coming years a closer look at the social dimension of fisheries (reference). The Common Fisheries policy includes some provisions especially in Articles 5, 16 and 17 where MS can apply specific measures to address social aspects regarding access to waters (Art. 5) or distribution of fishing opportunities (Art. 16, 17).

DG MARE requested STECF to analyse with the TOR 1-3 of this EWG how far those measures are implemented and what are possible impacts of the distribution of access rights to fishing opportunities. The EWG shall specifically address small-scale fisheries while Art. 5, 16 & 17 are not addressing explicitly small-scale fisheries (e.g. Art. 5 addresses *"fishing vessels that traditionally fish in those waters from ports on the adjacent coast")*. Limiting access to coastal waters, for example, is in several cases restricted to vessels of a certain small size or vessels using only static fishing gears, but in many other cases agreements between MS to access waters under jurisdiction of other MS involves fleets and gears different from small-scale coastal fleets because the use of towed gears or the size of the vessels involved.

The importance of small-scale fisheries in Europe, as in other parts of the world, are often underestimated. However, as the FAO estimated 90% of the employment in capture fisheries is in the small-scale sector (FAO 2016). In Europe the situation may be a bit different and the percentage a bit lower. Nevertheless, small-scale fisheries have still great importance regarding employment, value added in coastal communities (including fish processing) or indirect positive effects on e.g. the tourist sector. Nearly everybody who visits, for example, the German North Sea coast buys a snack with brown shrimps or at least enjoys the view of small shrimp trawlers in the harbours. Brown shrimp is a regionally specific product, but many landings of small-scale fishers have to compete with landings of larger vessels (not in all regions direct marketing to restaurants or the local populations is possible). In the Canary Islands, a touristic destination characterized by sand, sun and sea, with a majority of small-scale fleet, a large percentage of the incoming tourist (70%) associate the destiny to the consumption of seafood as the main gastronomic attractive (Gaztelumendi 2017). The importance of additional employment in secondary sectors related to fisheries (e.g. restaurants or wholesalers) and specifically to small-scale fisheries in the EU constitute an interesting area of research that has not been developed enough. This would facilitate a wider picture of the relevance of SSCF in the EU context.

In case small vessel owners have to sell their fish on larger markets they often face low prices as larger vessels can usually catch fish with lower costs (are 'more efficient' on the basis of costs per kg of fish not in all other aspects like CO2 emissions per kg of fish). It seems that this was also often an important argument to favour larger vessels over smaller ones as 'reasonable' prices for fish were one of the objectives of the CFP. Not less relevant has been the large amount of subsidies received by large-scale fleets in comparison with small scale (3.5 to 1 globally, much higher proportion in Europe (Schuhbauer et al. 2020) Besides that, support for marketing of small-scale coastal flees have been slim in many areas of Europe, where most of the Producer Organisations have been traditionally linked to large-scale fisheries (Pascual et al. 2020a). Similarly, efforts for the differentiation of the small-scale local catches from imports or catches coming from large scale fleets have been slim.

Although the small-scale sector is important, also the implemented management measures are and were in favour of the larger vessels. Owners of large vessels have easier access to capital to buy additional access rights (a reason for decreasing quota in the small scale sector in Germany), can catch fish mostly with lower costs and have easier access in the decision-making process. The available funding via the European Maritime and Fisheries Funds (EMFF) or its predecessors also favoured the larger vessels as local or regional authorities preferred to finance a large project with a larger vessel instead of many projects from small vessel owners. For the authorities it is also easier to deal with a small number of large vessels concentrated in a few large harbours compared to many small harbours with a large number of small-scale vessels. Efforts arranged

around axis 4 or priority 4 of the EMFF have not been always directed towards small-scale coastal fleets or fishing dependent populations, being focused on coastal communities development with a role of tourism development in the investment of funds probably larger than expected initially (Miret et al. 2020).

The EWG is addressing TOR 1-3 in the following chapters but it is important to keep in mind that it is important to look at the whole picture of regulatory measures, market access issues or availability of funding when analysing the current situation of small-scale fisheries and to make recommendations how the small-scale sector may be able to 'survive' in the coming years. In this sense, it is rather difficult to isolate the effects of ART 5, 16 and 17, on the SSCF, as there are many other circumstances that affect the viability of these fleet segments. Labour regulations, security at sea regulations, formal requirements to become a member of a crew and market regulations or policies, to name only a few, may have a decisive impact on the viability of small-scale fishing communities.

3 IMPLEMENTATION OF ART. 5.2 OF THE BASIC REGULATION OF THE CFP (TOR 1)

3.1 Historical origins of the reserved access in the region of 6-12 miles

The European Economic Community was founded in 1957 with the Treaty of Rome, that included only six countries Belgium, France, Italy, Luxembourg, the Netherlands and West Germany. At this earliest stage fisheries were not a priority, agricultural development took most of the attention. The first regulations about fisheries appear in 1970, focused on structural aids to the sector (Regulation 2141/70), and the markets of fishery products (Regulation 2142/70). The philosophy in the background of these regulations placed the emphasis "in the increase of production and the financial support to the modernisation and development of the means of production" (Penas Lado 2016:43). In this philosophy, it was assumed that an investment in means of production and an increase of the capacity of the fleet would provide a rise of the catches and improve the economic situation of the fishers. In some sense, it was expected that fishing activity would behave similarly to agriculture, where the green revolution in the 1950s-1960s had increased crop yields substantially (Penas Lado 2016). New technologies, high-yield cereal varieties, chemical fertilizers, new cultivation methods and increasing mechanization and industrialization had radically transformed agriculture in two decades. However, it was not so easy to transfer this experience into fisheries. In this sector, no investment can be made in improving the resource, in transforming the ecosystem to favour the growth of a species of fishing interest, except when aquaculture techniques are developed. In fishing, human uses are always at the mercy of the natural productivity of ecosystems, and when resources are intensively extracted, weakening an aspect of that ecosystem, the continuity of the same fishing activity may be jeopardised. In any case, policies that promoted the industrialisation of the fisheries, including a diversity of subsidies to increasing the capacity of the fleet, would continue to be relevant in Europe for years.

The regulations 2141/70 and 2142/70, appeared in a milieu where the control of marine resources were increasingly under the scrutiny of the states, and the extension of territorial sea and Exclusive Economic Zone would be under discussion for decades, with some countries pushing for extending the limits and others for maintaining the *status quo.* The European Fisheries Convention of 1964 facilitated the extension of the control to 12 miles from baselines. That was increasingly relevant in a context where 90% of the catches of the initial members were developed far from their territorial waters (Penas Lado 2016). Furthermore, a key principle was established at this moment, the freedom of access to other member's states waters, and the role of the council of ministers for adoption of any regulation or conservation measure (Penas Lado 2016). This was expected to be accepted by any new member of the Union, as the enlargement of the union in 1973 with the entrance of the United Kingdom, Ireland and Denmark would demonstrate. In some sense the rule of free access to waters was considered a political deal between those countries possessing the waters and those having the large markets (Penas Lado 2016). However, in those treaties of accession a reserved access to the 6-12 miles zone was established to "… vessels which fish traditionally in those waters and which operate from ports in that geographical coastal area..." until 1982 (Art 100, 101). It was also detailed in these articles that other Member States traditionally fishing in those areas have still access to those waters.

This agreement was later consolidated in future basic regulations of the CFP, that have extended its validity, in practice, to the present day. This way, the next big reform of European fishing policies in 1983 (Regulation 170/1983) consolidated the access regime within the 12 nautical miles of the territorial sea, with preferent access to the first six miles for nationals, while the area between 6-12 miles from baselines should involve the continuation of traditional access of other fleets on existing practices. Some excerpts from this regulation may illustrate the continuation of the policies regarding spatial access up to 12 miles.

"Whereas there should be special provisions for inshore fishing **to enable this sector to cope with the new fishing conditions resulting from the institution of 200-mile fishing zones; whereas, to this end, Member States should be authorized to maintain in an initial stage until 31 December 1992 the derogation…" (recital, 170/1983)**

"As from 1 January 1983 and until 31 December 1992, Member States shall be authorized to retain the arrangements defined in Article l00 of the 1972 Act of Accession **and to generalize up to 12 nautical miles for all waters under their sovereignty or jurisdiction the limit of six miles laid down in that Article" (Regulation 170/1983 Article 6.1) (emphasis added).**

In this regulation a number of derogations related to the access of Member States to the water of other Member States were detailed (Annex1), like happened later in all the future reforms of the basic regulations of the Common Fisheries Policy.

Penas Lado explains the reasoning behind these regulations very clearly: "This principle is in fact a derogation to the principle of equal access and initially it applied for 10 years but has worked so well that it has been remarkably stable and has been reincorporated into the CFP after every reform." (Penas Lado 2016, 54). This was maintained in the reform of 1992 (EEC No 3760/ 92) that basically extended the regime applicable to the 12 miles territorial sea from baselines until 2002. The basic regulation of the Common Fisheries Policy of 2002 (EC No 2371/2002 of 20 December 2002) once more extended the status quo of these waters, it is useful to check the exact text of the relevant recitals and articles:

Recital 11: In their 12 nautical mile zone, Member States should be allowed to adopt conservation and management measures applicable to all fishing vessels, provided that, where such measures apply to fishing vessels from other Member States, the measures adopted are non-discriminatory and prior consultation has taken place, and that the Community has not adopted measures specifically addressing conservation and management within this area.

Recital 14. Rules in place restricting access to resources within the 12 nautical mile zones of Member States have operated satisfactorily benefiting conservation by restricting fishing effort in the most sensitive part of Community waters and **preserving traditional fishing activities on which the social and economic development of certain coastal communities is highly dependent**. They should therefore continue to apply until 31 December 2012.

Art. 17.2. In the waters up to 12 nautical miles from baselines under their sovereignty or jurisdiction, Member States shall be **authorised** from1 January 2003 to 31 December 2012 to restrict fishing to **fishing vessels that traditionally fish in those waters from ports on the adjacent coast**, without prejudice to the arrangements for Community fishing vessels flying the flag of other Member States under existing neighbourhood relations between Member States and the arrangements contained in Annex I, fixing for each Member State the geographical zones within the coastal bands of other Member States where fishing activities are pursued and the species concerned. (emphasis added)

As in the previous regulations that supported this criteria, these arrangements were expected to be analysed in a report to be presented by the Commission to the European Parliament and the Council by 31 December 2011, in order to decide about the future regulations on this respect, that once more confirmed its validity.

In any case, it is relevant to note some special cases about these areas under control by Member States. For instance, in the Mediterranean some countries like Greece have maintained 6 miles of territorial sea, where these regulations are applicable. In the opposite side, the Regulation 1954/2003 (Western Waters Regulation), created a specific access regime for the Canary Islands, Azores and Madeira, granting access to the first 100 miles of the EEZ to the local fleets with similar criteria to the above mentioned regulations, including the respect to historical rights of fleets from other member states and bilateral agreements between them.

It is relevant to highlight the statements about the regulations about access to these 12 miles zone in the report COM(2011) 418[2], intended to evaluate the adequacy of these regulations. This report introduced some reasoning that was not present previously in the regulations 2371/2002:

[2] COM(2011) 418 On Reporting Obligations under Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy.

- "The objectives related to introduction (before entry into force of the CFP) of specific arrangements in the waters up to 12 nautical miles as formulated in Article 17(2) of Council Regulation (EC) No 2371/2002 were:

- **conservation of fish resources through allowing only small-scale coastal fleets into the area.** These fleets generally exert less fishing pressure in areas which may include the most sensitive EU waters, and include spawning areas, and

- preservation of coastal fleets' traditional fishing activities to maintain the social and economic infrastructure of these areas.

These specific restriction provisions were introduced in the CFP in 1983 and have been extended with every reform of the policy since." (page 4) (emphasis added)

Effectively, in the original regulation text (EC No 2371/2002, transcribed above) there were no clear references to "allowing only small-scale coastal fleets into the area", as suggested in this report, so the description of the objectives of the previous regulation perhaps was misinterpreted in COM(2011) 418.

In any case, the conclusions about the adequacy of this regime of access look clear and confirms again the pertinence of maintaining the *status-quo* designed since the seventies.

"Since 2002, the Commission was not informed of (real) problems or conflicts on specific restrictions, whether on setting them or on their management and functioning. Member States were able to resolve problems without having to refer any of them to the Commission. The regime is very stable, and the rules have continued to operate satisfactorily. All Member States stressed the importance of the specific restrictions in the light of their original objectives in their reactions to the Green Paper on CFP reform. One Member State suggested extending the 6-12 miles regime to 10-20 miles to achieve the regime's objectives more effectively." (p. 5)

As this report summarized, "… the objectives for the specific regime appear to remain as valid as they were in 2002. Modifying current arrangements might disrupt the current balance that has developed since the introduction of the special regime." (p.5)

This perception about the adequacy of these regulations persisted in the negotiation process for the CFP, that finished in 2013 with REGULATION (EU) No 1380/2013, as Penas Lado suggests: "The support to the existing regime applicable to the 12 nautical miles was almost unanimous" (442). This way the text in the new regulation about the 12 miles derogation does not differ clearly from the previous regulations. In the recitals of 2013 CFP, its success is emphasised, including the assertion that these rules have contributed to preserve the traditional fishing activities in coastal areas:

REGULATION (EU) No 1380/2013 CFP. Recital 19: "Existing rules restricting access to resources within the 12 nautical mile zones of Member States have operated satisfactorily, benefiting conservation by restricting fishing effort in the most sensitive part of Union waters. Those rules have also preserved the traditional fishing activities on which the social and economic development of certain coastal communities is highly dependent. Those rules should therefore continue to apply. Member States should endeavour to give preferential access for small-scale, artisanal or coastal fishermen" (emphasis added)

However, in our opinion the report COM(2011) 418 does not provide clear arguments to support the assertion that it has preserved the traditional fishing activities. In fact, if we have an historical perspective of the balance of the SSCF and LSF in Europe it is possible to find that the most traditional fisheries have been displaced in favour of not so traditional productive schemes, shifting the balance between both sectors. In any case, what is clear in this process is that these regulations have not created conflicts that make MS thinking twice about supporting it. This way, the articles 5.2 and 5.3 reproduces the wording of previous legal texts very similarly.

Art. 5.2. "In the waters up to **12 nautical miles** from baselines under their sovereignty or jurisdiction, Member States **shall be authorised**, until 31 December 2022, to **restrict fishing to fishing vessels that traditionally fish in those waters from ports on the adjacent**

coast, without prejudice to the arrangements for Union fishing vessels flying the flag of other Member States under existing neighbourhood relations between Member States and the arrangements contained in Annex I, fixing for each Member State the geographical zones within the coastal bands of other Member States where fishing activities are pursued and the species concerned. Member States shall inform the Commission of the restrictions put in place under this paragraph"

Art. 5.3. "In the waters up **to 100 nautical miles from the baselines of the Union outermost regions** referred to in the first paragraph of Article 349 of the Treaty, the Member States concerned shall be authorised, until 31 December 2022, to restrict fishing to vessels registered in the ports of those territories. Such restrictions shall not apply to Union vessels that traditionally fish in those waters, in so far as those vessels do not exceed the fishing effort traditionally exerted. Member States shall inform the Commission of the restrictions put in place under this paragraph" (emphasis added)

It is relevant to note the wording of the successive regulation on this subject as they **authorise** Member States to establish restrictions in the 12 miles zone in favour of *fishing vessels that traditionally fish in those waters from ports on the adjacent coast.* This is not compulsory in the regulation, and it is not implemented in general in most member states, of course not in the wording of the COM(2011) 418 (see also Pascual-Fernández et al. 2020). It is possible to find a diversity of examples where regulation compatible with these articles are effectively implemented, to favour local fleets, as we are going to exemplify in the third section of the text for TOR1. It is clear that these regulations have had an important role to help in recognizing the rights of fleets of different MS to enter the waters up to 12 miles under non-discriminatory treatment. That will be the subject of the next section of this TOR. In short, it looks that the derogation to free access to waters of neighbour countries under ART. 5(2) and 5(3) REG. 1380/2013, do not create major conflicts and because of that has gained support for so long in the EU law.

3.2 Analysis of the existing neighbourhood relations between Member States

A number of agreements between MS are already included in each new version of the CFP. The agreements could depend, at national level, on geographical areas, historical closest countries, number of vessels and/or species.

Member States always have derogations in progress written in the Annex 1 of the CFP. In 2020, Member States provided information to DG MARE on measures taken to restrict access to their waters in accordance with Article 5.2. and 5.3. Cyprus, Denmark, Estonia, Spain, France, Lithuania, Latvia, Netherlands, Portugal, Sweden and Slovenia apply a derogation for the 12 miles access to their resources. In this document, the agreement pending between Italy and Greece concerned the redefinition of ZEE and do not fill with the article 5(2) of the CFP. Moreover, France specified to have prohibited vessels using electric pulse within 12 miles in zone F, part of CIEM IV c. However, this decision is not under ART. 5(2) REG. 1380/2013.

In 2020, two countries, Estonia and Cyprus claim for full prohibition in its national waters and only vessels listed on national register could enter into this 6-12 miles limit.

Derogations depend on multi-actors: species, areas, coastal distance, species in areas, species in areas and distance. And for some, not mentioned in the Annex 1 of the CFP, bilateral agreements could refer also to the number of vessels, or metiers. A good example is the bilateral agreement for Spain and Portugal, signed in 2018 (Decree 25/2018, Acuerdo sobre condiciones de ejercicio de la actividad de las flotas española y portuguesa en las aguas de ambos países entre el Reino de Espana y la Republica Portuguesa). 2 areas are concerned by this agreement: Rio Mino and Rio Guadiana. Derogations are about number of vessels depending on the métiers.

Table 3.1 Countries which have access to water under jurisdiction of other MS

COUNTRIES WHICH APPLY DEROGATIONS	COUNTRIES WHICH HAVE ACCESS TO RESOURCES														
	BELGIUM	CROATIA	CYPRUS	DENMARK	ESTONIA	FINLAND	FRANCE	GERMANY	IRELAND	NETHERLANDS	PORTUGAL	SLOVENIA	SPAIN	SWEDEN	UK
BELGIUM							YES	YES		YES					
CROATIA												YES			
CYPRUS	Only Cypriot fleet			Only Cypriot fleet											
DENMARK	YES							YES		YES				YES	
ESTONIA	full prohibition (2020)					full prohibition (2020)									
FINLAND														YES	
FRANCE	YES							YES		YES			YES		YES
GERMANY				YES						YES					YES
IRELAND	YES						YES	YES		YES					YES
NETHERLANDS	YES			YES			YES	YES							YES
PORTUGAL													YES		
SLOVENIA		YES													
SPAIN							YES				YES				
SWEDEN				YES		YES									
UK	YES						YES	YES	YES	YES					

Table 3.1 summarizes bilateral agreements under ART. 5(2) REG. 1380/2013, 15 Member States applied the derogations to the access to waters regime as foreseen in Article 5. As shown, 4 countries, mainly explained by their geographical situation and their history in European Union, have 5 bilateral agreements each: France, Netherlands, Ireland and United Kingdom.

Table 3.2 Countries which have access to water under jurisdiction of other MS Derogations by species

COUNTRIES APPLYING DEROGATIONS	COUNTRIES WHICH HAVE ACCESS TO RESOURCES														
	BELGIUM	CROATIA	CYPRUS	DENMARK	ESTONIA	FINLAND	FRANCE	GERMANY	IRELAND	NETHERLANDS	Portugal	SLOVENIA	SPAIN	SWEDEN	UK
BELGIUM							herring			all species					
CROATIA												demersla and small pelagic including sardine and anchovy			
CYPRUS															
DENMARK	cod, haddock, whiting, plaice							flatfish, shrimps, prawns, sprat, cod, saithe, haddock, mackerel, herring, whiting, nephrops, eel, salmon		flatfish, roundfish, plaice, sole, cod				all species	
ESTONIA	full prohibition (2020)					full prohibition (2020)									
FINLAND														all species	
FRANCE	demersal, scallops							herring		all species			anchovies, sardines/all species		herring
GERMANY				demersal, sprat, sandeel, shrimps, prawns, cod, plaice, herring, eel, whiting, mackerel						demersal, shrimps, prawns					cod, plaice
IRELAND	demersal						Demersal, nephrops, mackerel, herring (all species)	herring, mackerel		Herring, mackerel					demersal, herring, mackerel, nephrops, scallops
NETHERLANDS	all species			demersal, sprat, sandeel, horse-mackerel			all species	cod, shrimps and prawns							demersal
PORTUGAL															
SLOVENIA		demersal and small pelagic including sardine and anchovy													
SPAIN							pelagic/all species								
SWEDEN				all species		all species									
UK	herring, demersal						herring, demersal, scallop, lobster, crawfish	herring, mackerel	demersal, nephrops	herring					

If for some countries as Sweden, Member States signed bilateral agreement for "all species", (see Table 3.2) other ones detailed species on specific areas which are under the regulation. Denmark has bilateral agreement with Germany which is able to target flatfish, shrimps and prawns, sprat, cod, saithe, haddock, mackerel, herring, whiting, nephrops, eel, salmon but not in the same areas.

Table 3.3 Countries which have access to water under jurisdiction of other MS Derogations by areas

COUNTRIES WHICH APPLY DEROGATIONS \ COUNTRIES WHICH HAVE ACCESS TO RESOURCES	BELGIUM	CROATIA	CYPRUS	DENMARK	ESTONIA	FINLAND	FRANCE	GERMANY	IRELAND	NETHERLANDS	PORTUGAL	SLOVENIA	SPAIN	SWEDEN	UK
BELGIUM							Area 27 (7d)			Area 27 (7d)					
CROATIA												Area 37 (2.1)			
CYPRUS	Only Cypriot fleet			Only Cypriot fleet											
DENMARK	Area 27 (4b,4c)							Area 27 (4b,4c)		Area 27 (4b,4c,3d)				Area 27 (3a,3d)	
ESTONIA	Area 27 (29,32) full prohibition (2020)						Area 27 (29,32) full prohibition (2020)								
FINLAND														Area 27 (3d)	
FRANCE	Area 27 (7d)							Area 27 (7d)		Area 27 (7d)			Area 27 (8b)/Area 37 (1.1)		Area 27 (7d)
GERMANY				Area 27 (4b,3d,)						Area 27 (4b)					Area 27 (4b)
IRELAND	Area 27 (7a,7g)						Area 27 (7b,7j2,7g,7a)	Area (72j,7g)		Area 27 (7g,7a)					Area 27 (7g,7a)
NETHERLANDS	Area 27 (4c)			Area 27 (4c)			Area 27 (4c)	Area 27 (4c)							Texel south point, west to the Netherlands/German
PORTUGAL													Area 27 (9a)		
SLOVENIA		Area 37 (2.1)													
SPAIN							Area 27 (8b)/Area 37 (1.1)				Area 27 (9a)				
SWEDEN				Area 27 (3.a,3d)		Area 27 (3d)									
UK	Area 27 (4b,4c,7d)						Area 27 (4b,7e,7f,7a,6a)*	Area 27 (6a,7a)	Area 27 (6a,7a)	Area 27 (4a,4b,7d)					

The geographical distribution of the different bilateral agreements shows that the agreements under Annex 1 of the CFP do not only concern SSFs (see Table 3.3). French Small-Scale Fisheries vessels do not go to fish in these zones 4a, 6a, 7a.

Table 3.4 Countries which have access to water under jurisdiction of other MS Derogations by coastal distance

COUNTRIES WHICH APPLY DEROGATIONS \ COUNTRIES WHICH HAVE ACCESS TO RESOURCES	BELGIUM	CROATIA	CYPRUS	DENMARK	ESTONIA	FINLAND	FRANCE	GERMANY	IRELAND	NETHERLANDS	PORTUGAL	SLOVENIA	SPAIN	SWEDEN	UK
BELGIUM							3-12 miles			3-12 miles					
CROATIA												6-12 miles			
CYPRUS	Only Cypriot fleet			Only Cypriot fleet											
DENMARK	6-12 miles/4-12 miles							6-12 miles/4-12 miles/3-12 miles		6-12 miles/4-12 miles				6-12 miles/4-12 miles	
ESTONIA	Area 27 (29,32)					Area 27 (29,32)									
FINLAND														YES	
FRANCE	6-12 miles							6-12 miles		6-12 miles			6-12 miles		6-12 miles
GERMANY				3-12 miles						3-12 miles					around island
IRELAND	6-12 miles						6-12 miles	6-12 miles		6-12 miles					6-12 miles
NETHERLANDS	3-12 miles			3-12 miles			6-12 miles	3-12 miles							Texel south point, west to the
PORTUGAL													6-12 miles		
SLOVENIA		6-12 miles													
SPAIN							6-12 miles				6-12 miles				
SWEDEN				Area 27 (3.a,3d)		Area 27 (3d)									
UK	6-12 miles						6-12 miles	6-12 miles	6-12 miles	6-12 miles					

More often, the derogations allow foreign vessels to navigate in territorial waters between 6 and 12 miles (Table 3.4). Some countries could give access to closest waters as Denmark, where depending on the species or the area, these closest limitations could change from 3, 4 or 6 miles.

In order to preserve the activities of the SSF, these tables summarizing these derogations can give a preview of the impact of possible changes in the strategy of Member States or European Union on fishing effort, geographical occupation, species impacted. However, it is only a 'fixed picture' which does not demonstrate social impacts on European fleet but could be an indicator.

Brexit issues

United Kingdom is one of the Member States which have the more important number of bilateral agreements all around its territory (with 5 different Member States). The EWG 2014 underlines the difficulties to conclude how far Brexit will impact the derogations to free access to UK waters.

One of Brexit's major problems is that we do not know which agreements will continue, which ones will stop. According to the 4 tables presented, we can see that the French, Irish, Belgian, German and Dutch fleets will be directly impacted, but we do not yet know to what extent: total cessation of fishing in British waters, which fisheries would be maintained?

On the other hand, will the UK fleets still fish in the 6-12 miles waters limit of EU MS? Negotiations are still in progress. Any measures could impact Member States which have signed bilateral agreement with United Kingdom (fishing effort, evolution of number of vessels, social dimensions, economic issues, etc.) but also other Member States as the equilibrium built during years between countries will not be the same.

Outermost Regions

A special case are the Outermost regions, that enjoy reserved access a 100 miles zone, also with agreements that cover other MS fleets with historical rights in this area

- In the waters up to 100 nautical miles from the coasts of Europe's outermost regions MS concerned are authorised to restrict access to vessels registered in those territories and to vessels that traditionally fish in those waters. This exception expired by end 2022 (See Art. 5.3. REGULATION (EU) No 1380/2013 CFP)

Marine biological resources around the Union outermost regions referred to in the first paragraph of Article 349 of the Treaty should be especially protected since they contribute to the preservation of the local economy of those territories, having regard to their structural, social and economic situation. Certain fishing activities in those waters should therefore be limited to fishing vessels registered in the ports of those territories.

Practically, Canary Islands and Madeira are following this rule. Azores claimed to access 200 NM due to sea mounts resources within and outside these 200 NM but the case was brought to court and not approved.

In the waters up to 100 nautical miles from the baselines of Guadeloupe, French Guiana, Martinique, Réunion and Mayotte, fishing shall be limited to vessels registered in the ports of those overseas territories unless derogation is granted by the State. Such limitations shall not apply to vessels registered in the European Union fishing traditionally in those waters, provided that those vessels do not exceed the fishing effort traditionally carried out there. In Mayotte waters, trawlers are not allowed, like the Canary Islands.

Due to their insularity Outermost territories are subject to specific resource sharing conditions (except French Guiana which is an inland territory). The example of the Ilhas Selvagens that has been claimed between Portugal and Spain can illustrate this situation.

3.3 Case Studies for access restrictions for small scale fishing vessels in coastal waters

Germany

In German territorial waters vessels from Denmark and The Netherlands are allowed to fish. Main target species are brown shrimp in the North Sea, Cod in the Baltic Sea. For the access to the coastal waters some restrictions are in place introduced by an EU regulation ('Plaice Box' North Sea) or regulations from the regional states (Baltic Sea). This limits the access to the 12 nm zone (North Sea) or 3 nm zone (Baltic Sea in Mecklenburg-Western Pommerania) to small-scale vessels.

Plaice-Box North Sea (Denmark, Germany, The Netherlands)

With EU Council Resolution 4193/88 the EU established the so-called Plaice Box (PB) which limits the access to the coastal waters in the Wadden Sea to vessels with not more than 221 kw (Beare

et al. 2013). The PB is covering 42,000 km^2 of which 24,000 km^2 are located within the 12 nm zone. The reason for the limitation of access was limiting the bycatch of small plaice as a conservation measure for the plaice stock. In 2010 the EC issued a study to evaluate the PB (Beare et al. 2010). A clear link between the closure of the area for larger vessels and the success of the PB is not easy to draw. The fishing effort in the area changed substantially (see Table 3.5).

Table 3.5: Development of Fishing effort in the PB (Baere et al. 2013, p. 53)

Métier	Mesh size (mm)	Target species	Fishing effort					
			A 1984–1988		B 1989–1994		C 1995–2008	
			kWh (10^6)	%total	kWh (10^6)	%total	kWh (10^6)	%total
BEAM > 80 & > 221 kW	80–99	Sole	201.8	16%	20.7	2%	4.9	1%
BEAM > 80 & <= 221 kW	80–99	Sole	20.5	51%	13.1	30%	5.5	19%
OTTER > 221 kW	80–99	Mixed demersal	-	-	0.2	2%	0.3	1%
OTTER <= 221 kW	80–99	Mixed demersal	-	-	0.9	12%	0.8	6%
Gill netters <= 221 kW	-	sole, cod	-	-	0.8	40%	0.5	19%
Shrimpers	16–31	Brown shrimp	-	-	-	-	73.6	88%
Other (> 221 kW)		Mixed demersal	-	-	3.8	3%	1	2%
Other (<= 221 kW)		Mixed demersal	-	-	7.6	69%	0.6	22%

The effort of larger vessels decreased to a small proportion while the effort of small shrimp fishing vessels increased substantially. The shrimp fishery is not regulated by quota or other access limitations (in Germany vessels need a licence and only trained fishers can get a license) and the shrimp landings have increased over time. This could be due to the lower levels of some of the predator stocks as cod in the area. The smaller beam trawlers switched from a mixed fishery for shrimps and flatfish to a pure shrimp fishery. Since the introduction of the PB the shrimp fishing sector was in most of the years the most profitable part of the small-scale fisheries (Döring et al. 2020). It is not possible, however, to link that directly to the PB but the regulation is still in place today although the plaice stock is at its highest level on record (ICES).

German Baltic Sea Small-scale fisheries

For the Baltic Sea Small-scale fisheries a few specific rules regarding access to the 3 nm zone were introduced by the two regional states (Mecklenburg-Western Pommerania (MV) and Schleswig-Holstein (SH)). The regional states are responsible for fisheries management measures within the German 12 nm zone including licences, area closures or prohibited fishing gears (e.g. 'regulation of coastal fisheries' MV, see Döring et al. 2020, p. XX). The regulation in MV includes the ban of towed gears in the 3 nm zone which includes large areas of the so-called ‚Bodden', shallow areas surrounded at least partially by land (internal waters). Danish fishers have partially access to German waters, but this is more important in the North Sea (e.g. shrimp and gillnet fishers in the Wadden Sea).

The small-scale fishing sector is economically in a very critical situation as both main target species, Western Baltic Herring and Western Baltic Cod, are in bad shape and quotas very low. Slight increases of catches of other species (like freshwater species) could substitute the losses of herring and cod. Therefore, the limitation of coastal waters to the small-scale fleet was not sufficient to lead to a viable small-scale fishing sector.

Spain and the Canary Islands

Fisheries in the waters under jurisdiction of Spain are diverse, as several seas and very different coastal and human landscapes are involved. Fisheries in the Mediterranean, the Atlantic, the Cantabric Sea or in outermost regions like the Canary Islands show relevant differences. As a consequence, regulations in Spain take into account these specificities since long ago, with general regulations and then specific ones for large areas of the sea under the control of Spain: Cantabric Sea and Northwest; Gulf of Cadiz, Mediterranean Sea and finally the Canary Islands. Besides that, the political framework in Spain after the dictatorship of Franco involved a

decentralised State with regional governments that held the control of inland and interior waters while the State maintained the control of territorial sea and EEZ (Pascual et al. 2020b). The interior waters are excluded from the Art. 5.2 of the CFP, that refers to the waters from baselines, but in any case the control of regional governments of these areas may influence the national regulations in the waters under its jurisdiction and vice versa, as it is expected some compatibility and coordination between national and regional regulations in each area. That is even more evident in outermost regions like the Canary Islands, where Spain is authorised to restrict access to the vessels registered in those territories (art 5.3 CFP). In this area general restrictions to industrial gears have been implemented since long ago: trawling is prohibited like the purse seiners for tuna. Most of the fleet is small-scale, and the regulations pay special attention to the specificities of each Island. This way, the fishing gears allowed in an Island like El Hierro are very different and more restrictive than those permitted in Gran Canaria or Tenerife. Each of these islands may have conditions very different to other islands, in relation to resource abundance, continental shelf or fishing pressure.

It is relevant to note the role of the regional government and the fisher organizations in the development of fisheries regulations in the Canary Islands. For instance, *cofradías* -fisher organizations with historical tradition in Spain (Bavinck et al. 2015), in some islands arrange proposals to the administration in order to modify the gears allowed on their island. Many of the regulations adopted by the administration since the 1980s have been inspired by the demands of the fisher's associations. For example, the decree (90/1997 of 9 June) which prohibits the practice of longline fishing on the islands of Fuerteventura and El Hierro, makes explicit reference to the will of the fishermen's associations on both islands to justify the application of such a measure. In this sense, we could say that some of these fishermen's organisations have learned to obtain from the national and regional administration legislative measures which they consider most beneficial to the ecosystem on which they depend, while preserving their traditional fishing methods. The different regulations regarding the use of pots in Fuerteventura have also revolved around the proposals made by the Island's fishermen's associations, like the restriction to pots for fish or longlines in El Hierro. This facilitates the activities of the small-scale fleets in the Archipelago.

Conclusions

The EWG concludes that no MS reported any conflicts regarding Art. 5.2 and the special rule to allow vessels traditionally fishing in the area in the territorial waters (6-12 nm). As this regulation is basically in place since the early 1970ies and was included in the first basic regulation of the CFP 1982 and every revision of the basic regulation ever since (1992, 2002, 2013) it is well accepted and avoided conflicts between MS.

The EWG notes, however, that due to the termination of the CFP for the UK access rights to coastal waters are unclear after the 1st of January 2021 in areas where so far Art. 5.2 has given access for MS vessels within UK waters and in waters of EU MS for UK vessels. This may lead to conflicts between the UK and MS of the EU.

The EWG concludes that Art. 5.2 regulates access to the territorial waters for vessels of neighbouring MS traditionally fishing in that area. There is no limitation to small-scale fishing vessels. Some MS, however, limit the access to coastal waters (mostly 0-6 nm, but in some cases there is EU regulation also for 6-12 nm (see Plaice Box in the North Sea)) to vessels of certain sizes or vessels using specific fishing gear.

The EWG notes that it was not possible for the EWG to draw a conclusion that where the access to coastal waters is limited to vessels of the small-scale segments/coastal fisheries (e.g. Plaice Box North Sea) this lead to a positive development of coastal fleets or at least had positive effects on the segments.

Furthermore, if we try to apply in the analysis the definition of small-scale coastal vessels derived from the EU regulations this is not comparable to the regulations of most of the MS, that use specific national regulations to differentiate smaller segments of the fleet from larger ones. As a consequence, the evaluation of the impacts of EU regulations on SSCF looks especially complicated, as the EU support a specific definition of SSCF and the MS a different one, being the

translation rather complex in most cases (Pascual et al. 2020, Pita et al. 2020). It is relevant to note that most of the management measures on SSCF are developed by MS.

Furthermore, it is rather difficult to isolate the effects of ART 5.2 and even jointly with articles 16 and 17, on the SSCF, as there are many other circumstances that affect the viability of these fleet segments. Labour regulations, security at sea regulations, formal requirements to become a member of a crew and market regulations or policies, to name only a few, may have a decisive impact on the viability of small-scale fishing communities. Here further analyses are necessary.

4 THE USE OF SOCIAL CRITERIA IN THE ALLOCATION OF FISHING OPPORTUNITIES (TOR 2)

The second output from the terms of reference asks the EWG to assess for each Member State whether, and if so, how social criteria have been used by Member States to allocate the fishing opportunities available to them under Article 17 of the CFP. The following sections first review the historical context behind the inclusion of social criteria in the CFP and provide definitions used by the EWG in our assessment, before concluding with a summary table documenting the use of social criteria in Member State allocations and a discussion of their role.

4.1 Background on the development of Article 17 and the inclusion of social criteria

The development of Article 17 of the CFP and the inclusion of social criteria can be situated in the context of two parallel developments in the most recent CFP reform: a recognition of the importance of social objectives and a focus on the allocation of fishing opportunities as a key policy lever.

In 2008, the European Commission's Green Paper identified the unclear and conflicting objectives of the CFP as one of the policy's key structural failings. The Green Paper noted that while the CFP aims to manage fisheries to provide sustainable economic, environmental, and social conditions, no priority between these objectives is specified and one condition may dominate others in practice.

The Green Paper also highlighted overcapacity as a key structural failing in CFP management and suggested that "market instruments such as transferable rights…may be a more efficient and less expensive way to reduce overcapacity" as "operators adapt their fleet to their fishing rights in order to achieve economic efficiency." After consultation on the Green Paper the Commission went further, proposing that as of 2014 all Member States would be obliged to use 'transferable fishing concessions' at a national level for all species under quota or effort limits. Although the proposal contained key conditions (SSCF excluded, relative stability respected, no property rights granted, time-limited allocations that revert back to the state, and the use of a reserve for new entrants), several Member States and many stakeholders opposed the proposal and it was eventually dropped.

While the proposal for transferable fishing concessions failed, it focused attention on fishing opportunities as a means to deliver policy objectives. Environmental NGOs (with some exceptions, e.g. WWF and EDF), working in coalition with the newly-formed EU lobby group for small-scale fishers (the Low-impact Fishers of Europe), saw the use of fishing opportunities as a lever to achieve ends other than economic efficiency. Instead of mandatory transferability, this coalition pushed for the mandatory use of social and environmental criteria in the allocation of fishing opportunities.

A shift to social criteria could precipitate profound changes in the distribution of fishing opportunities. A 2011 paper (Crilly & Esteban, 2011) analysed the UK demersal and gillnet fisheries for cod, finding that if all contributions to society (both negative and positive) were considered, gillnetters delivered a higher societal value per tonne of cod quota. The authors recommended that EU Member States should be "re-assessing their current methods of quota allocation, moving towards use of environmental and social criteria, as opposed to historical catch records, when allocating quota among its fleet" (pg. 30). Moreover, because the study found that trawlers were more profitable than gillnetters (without including externalities), a system of transferable fishing concessions would result in the exact opposite outcome with fishing opportunities concentrating overtime in the trawl fleet. In this example criteria-based allocations would be used to counteract economic efficiency (in financial terms), not support it.

The efforts of environmental NGOs and small-scale fishers proved successful in the European Parliament. On 6 February 2013, the European Parliament held its first reading of the Commission's proposed draft of the new base regulation. The Parliament deleted the proposal for transferable fishing concessions (Article 29) and replaced it with "transparent and objective

environmental and social criteria" that would be determined at the Member State level. The text read:

> *(28a) Access to the fishery should be based on transparent and objective environmental and social criteria, as a means of promoting responsible fishing which would serve to ensure that those operators who fish in the least environmentally damaging way and provide the greatest benefits for society are encouraged.*

> *(29a) In accordance with the subsidiarity principle, each Member State should be allowed to choose its method of allocating the fishing opportunities assigned to it without an allocation system being imposed at Union level. In this way, Member States will remain free to establish, or not to establish, a system of transferable fishing concessions.*

In the Parliament's counterproposal there was no mention of "economic" criteria. It is unclear whether this was because they were considered to be covered by "social criteria" or intentionally excluded. Later, in what became the draft of Article 17, the wording (then Article 16a), treated "contribution to the local economy" as an example of a social criterion. The text read:

> *16 (a) Criteria for Member States' allocation of fishing opportunities*
>
> *When allocating the fishing opportunities available to them as referred to in Article 16, Member States shall use transparent and objective environmental and social criteria, such as the impact of the fishery on the environment, the history of compliance and the contribution to the local economy. Other criteria such as historic catch levels may also be used. Within the fishing opportunities assigned to them, Member States shall provide incentives to fishing vessels deploying selective fishing gear or using fishing techniques with reduced environmental impact such as reduced energy consumption or habitat damage.*

Transferable fishing concessions were not completely removed from the regulation, however, and several references remained. The entirety of Article 21 on the "management of fishing capacity" is simply a permission to develop transferable fishing concessions. Furthermore, and of direct relevance to Article 17, Article 16 (6) implies that in systems of transferable fishing concessions the question of allocation is of no relevance. The text of Article 16 (6) and 17, adopted in reformed CFP (Council Regulation (EU) No 1380/2013) reads:

> *16 (6) Each Member State shall decide how the fishing opportunities that are allocated to it, and which are not subject to a system of transferable fishing concessions, may be allocated to vessels flying its flag (e.g. by creating individual fishing opportunities). It shall inform the Commission of the allocation method.*

> *17) When allocating the fishing opportunities available to them, as referred to in Article 16, Member States shall use transparent and objective criteria including those of an environmental, social and economic nature. The criteria to be used may include, inter alia, the impact of fishing on the environment, the history of compliance, the contribution to the local economy and historic catch levels. Within the fishing opportunities allocated to them, Member States shall endeavour to provide incentives to fishing vessels deploying selective fishing gear or using fishing techniques with reduced environmental impact, such as reduced energy consumption or habitat damage.*

In the final version of Article 17, economic criteria were specifically introduced, and placed on an equal footing with environmental and social criteria. Perhaps relatedly, historical catch levels were put on the same footing as the other exemplar criteria. The compulsion to provide incentive-based allocations was also demoted to an obligation to "endeavour" to do so.

Despite these amendments during the final legislative process, Article 17 could still have a potentially transformational impact on EU fisheries by leveraging one of the most important policy

levers in fishing opportunities. However, the actual allocations, and interpretation of the article, would lie with Member States.

4.2 Definitions of fishing opportunities and social criteria

Article 4 of the CFP provides definitions for terms used in the regulation, but 'fishing opportunity' is not included. The only definition of fishing opportunities that has been elaborated in EU legislation is Council Regulation (EC) No. 1224/2009 which defines a fishing opportunity as a "quantified legal entitlement to fish, expressed in terms of catches and/or fishing effort". What remains unclear from this definition is the scope of fishing effort, for example where the line is drawn between fishing effort and technical regulations (e.g. a limit on days at sea, a limit on number of pots, or a limit on mesh size). Catch limits are more clearly fishing opportunities and are specifically defined in Article 4. Some authors have proposed that spatial access can also be considered a fishing opportunity and should therefore be allocated under the requirements of Article 17 (Williams & Carpenter, 2018).

The definition of social criteria is even more problematic. No definition is provided in any EU fisheries regulations, nor is one provided in any of the literature on social criteria in EU fisheries (Grieve, 2009; Crilly & Esteban, 2011; Blomeyer et al., 2015; Carpenter & Kleinjans, 2017). In the corporate social responsibility literature, it is explained that "social criteria examine how [a business] manages relationships with employees, suppliers, customers, and the communities where it operates." In this case the scope of social criteria is clear (i.e. relationships with people), but this definition is oriented towards measurement compared to something actionable, as Article 17 requires.

The result is that the interpretation of social criteria is still open to debate. The EWG applied a broad working definition based on the intended impact of the criteria. While every criterion has a social impact (as fisheries management is about managing people), some criteria, such as those based on low-impact fishing gears are intended to ease pressure on the marine ecosystem and the social impact is an indirect, secondary impact.

This working definition does not remove ambiguities, for example the unclear distinction between economic and social criteria (and as illustrated by the amendments to Article 17). Some criteria may appear to be economic because they are about financial transactions (e.g. contribution to the local economy, crew wages) but they also have a clear social impact. These impacts (and criteria) are sometimes termed 'socio-economic'.

The use of historical catches as an allocation criterion was determined by the EWG to be a social criterion under this working definition. This may not be the conventional understanding of historical catches but there were three important reasons for this classification. First, it was determined that the primary intended impact of historical catches is to minimise aggravation from the fishing industry by providing stability. Second, while a historical catches criterion may be seen as economic because it likely favours larger fishing operations with higher economic output, if the primary intended impact was to increase economic output (e.g. GDP or GVA) then allocations could be made on this basis through direct allocation to the most profitable fleet segments/vessels or through the auctioning of fishing opportunities. Third, while in practice the historical catch criterion has often worked against the use of social criteria, this does not in itself exclude historical catch from being defined as a social criterion, rather it indicates that social criteria can sometimes be at odds with one another. As the historical catch criterion is the most commonly used criterion used in the allocation of fishing opportunities, this definitional issue has great importance for the ToR.

4.3 Acquiring information on the use of social criteria in the allocation of fishing opportunities by Member States

Although Article 17 of the CFP requires transparent and objective criteria, the details of Member State allocation systems are often difficult to come by. Furthermore, while Article 16 (6) of the CFP (printed above) requires Member States to inform the European Commission of its allocation

method, two requests by the European Commission in 2016 and 2020 yielded responses from only a subset of Member States (16/23 in 2020, see table 4.1). While these responses were provided to the EWG, several responses were of limited use as they contained only broad descriptions of the national fishing fleet or simply emphasised the intent of their allocations.

With only partial Member State coverage and partial information, the EWG supplemented the information with their knowledge of national systems, checking details in national laws, and gathering information from key sources in the secondary literature. This literature included MRAG et al, 2009; Carpenter & Kleinjans, 2017; and WWF, 2018 for cross-EU comparative studies, as well as several Member State-specific studies. The use of secondary literature also helped balance the Member State responses that were provided from a perspective of national compliance (rather than scientific analysis).

The following table documents social criteria used by EU Member States in their allocation of fishing opportunities social criteria used in the allocation of fishing opportunities. The standardised definitions for allocation systems come from Oostdijk & Carpenter (2020). The table is not a comprehensive account, although it is the most detailed record compiled to date. The table only covers primary allocations and does not detail secondary systems such as how fishing families, businesses, and producer organisations decide to manage the fishing opportunities they are granted. General licensing conditions (e.g. having a valid licence) are not included.

Table 4.1: Social criteria used by EU Member States in their allocation of fishing opportunities

Fisheries			System overview			Use of social criteria				Other
MS	**Management division**	**Example species**	**Fishing opportunity**	**Duration**	**Allocation**	**What social criteria are used?**	**How are the criteria operationalised?**	**How are the criteria transparent and objective?**	**Are the criteria incentive-based?**	**Other (non-social) criteria**
Belgium	Catch quota fisheries	Sole, plaice, Norway lobster	Catch quota	Less than one year	Individually rationed quota pool (large and small-scale), total quota pool (coastal)	Vessel size, flexible system based on collective and full utilisation of quotas.	Large-scale: >221 kW and <1200 kW, <385 GT); small-scale: <221 kW, <111 GT; coastal:<80 GT.	Vessels are treated similarly with a fleet segment but not between fleet segments.	No	Economic criteria are inherent in the flexible approach to maximize production.
Bulgaria	Catch quota fisheries	Sprat, turbot	Catch quota	One year	Total quota pool (sprat), individual quota (turbot)	Historical landings plus points for captain/crew on an employment contract, and if captain/crew is less than 30 years old.	Historical landings verified based on the fleet register, logbooks, sales notes. Points for employment are verified with a copy of the contracts.	Points-based system based on transparent criteria published online.	There is an incentive to hire crew on contract and to hire young crew.	Points for acoustic devices for repelling cetaceans, and for smaller vessels (proxy for environmental impact).
	Effort fisheries	Sea snails, horse mackerel, red mullet	Licences	One year	Total effort	Historical landings.	No information collected	No information collected	No information collected	No information collected
Croatia	Catch quota fisheries	Bluefin tuna, swordfish, anchovy, sardines	Catch quota	One to several years	Individual quota (BFT), total quota pool (anchovy, sardines)	Historical landings.	No information collected	No information collected	No information collected	No information collected

	Effort fisheries	Hake, sole, deep-water rose shrimp, anchovy, sardines, Norway lobster	Licences	Three years	Total effort	Five criteria to preserve traditional fishing and alleviate deprivation: local residence, old age, disability, war veterans, and low income.	Residence: duration according to the census; age: 50+ years; disability: degree; low-income: monthly income.	Points-based system based on transparent criteria published online.	Marginal (e.g. changing residence).	No
Cyprus	Catch quota fisheries	Bluefin tuna, swordfish	Catch quota	One year	Individual quota (large-scale); total quota pool (small-scale)	Historical landings.	Large and small-scale allocation systems separated at 24m.	Communicated to associations in a preparatory meeting.	No	No
	Effort fisheries	Bogue, surmullet, parrotfish, picarel, red mullet	Licences	One year	Total effort	No information collected	No information collected	No information collected	No information collected	No information collected
Denmark	Catch quota fisheries	Herring, sprat, cod, plaice	Catch quota	16 years	Individual transferable quota (sector), individually rationed quota pool (coastal fleet)	Historical landings, Fishfund helps young entrants into TAC fisheries.	New entrants defined as under 40 years also. Quota is loaned for 8 years after which the quota is returned to the pool.	Developed in a technical working group with fisheries associations and NGOs. Codified in a national executive order.	Marginal (gear for the coastal fleet)	Protected quota bonus for under 17m passive gears (coastal fleet).
Estonia	Catch quota fisheries	Herring, northern shrimp, sprat, cod	Catch quota	Indefinite (ITQs), one year (IQs)	Individual transferable quota, individual quota	Division of quota between coastal and trawl fleet considers sufficiency for the coastal fleet.	Reference period 1998-2000.	The historical fishing rights of applicants is published.	No	Spatial access reserved for the coastal fleet through a 20m isobath limitation for the trawl fleet.
	Herring fishery	Herring	Days at sea	Indefinite	Individual transferable effort	Division of effort between coastal and trawl fleet considers sufficiency for the coastal fleet.	Reference period 1998-2000.	The historical fishing rights of applicants is published.	No	No

Finland	Catch quota fisheries	Herring, sprat, salmon	Catch quota	10 years	Individual transferable quota (herring, sprat, salmon), total quota pool (cod)	Historical landings, quota reserve for new entrants (4%) held for five years as non-transferable quota.	3 best years over a 5-year refence period.	Claims of increased fishing to establish a track record.	No	Limit on transferability from trap-net to trawl.
France	Catch quota fisheries	Sole, hake, Norway lobster, mackerel, cod, plaice, whiting	Catch quota	Undefined	Individual quota (PO members), total quota pool (non-PO members)	Historical landings, socio-economic balance, quota reserve for SSF and new entrants, contribution to the local economy.	Reference period 2001-2003. When a vessel changes owner 20% of the track record goes to the government; 1% of quota in national quota pool for non-PO vessels.	In practice, mostly allocated on historical landings but unclear. Underestimation of SSF landings. Allocation practices with POs only known by the PO board of directors.	Marginally (in practice, mostly allocated on historical landings).	Market orientation, provisions in the Code Rural to allocate track records from the national reserve to low-impact fishers.
	Effort fisheries	Oysters, lobsters, gilthead seabream, red mullet, Mediterranean sole	Licences	One year	Total effort	Historical landings, fishing port, fleet segment.	No information collected	Licenses attributed by Regional Fishing Committees based on the same three criteria (track records, socioeconomic and market orientation).	No information collected	No information collected
Germany	Catch quota fisheries	Cod, saithe, herring, plaice, mackerel, Greenland halibut	Catch quota	Undefined	Individual quota (full time), individually rationed quota pool (part time)	Historical landings, income from fishing activity and total income, previous employment in the fishery.	Reference period 1986-7 (North Sea) and 1989-90 (Baltic Sea), previous employment in the fishery and 3-year training, share of income from fishing.	No information collected	Additional days at sea for vessels that avoid cod by-catch by moving fishing grounds.	Efficiency and sufficient market supply also listed in the fisheries law.

Greece	Catch quota fisheries	Bluefin tuna, swordfish	Catch quota	One year	Total quota pool	Points received for historical landings, place of permanent residence (small islands), minor children or children with a disability, vessels <12m, crew <4 people. Two annual authorisations for young entrants.	Historical landings based on two previous years. Young entrants are fishers under 40 who have not had a tuna fishing authorisation before.	Points-based system	Marginally (employ fewer people or to base in a remote island).	Points received for two permanently fitted refrigerators, low-impact fishing gears.
	Effort fisheries	Red mullet, hake, surmullet, octopus, albacore tuna	Licences	Two years	Total effort	No information collected	No information collected	No information collected	No information collected	No information collected
Ireland	Catch quota fisheries	Mackerel, herring, cod, blue whiting, horse mackerel, boarfish, mackerel, sole, plaice, whiting, haddock, megrim, Norway lobster	Catch quota	One year	Individually rationed quota pool (most), individual quota (mackerel, horse mackerel, blue whiting, boarfish).	Pelagic species: historical landings. Demersal species: vessel length and the consultation of the Quota Management Advisory Committee (QMAC). Separate mackerel and herring quota pools for artisanal fishers.	Different reference periods for different pelagic species. Vessel length set at 16.76m. Monthly assessment of quota uptake and production by QMAC.	QMAC meeting proceedings are not publicly available. Recommendations are formalised in Fisheries Management Notices published online.	Marginal (artisanal quota pools).	Occasionally quota allocations to incentivise low-impact gear. A ban on trawling within the 6 nm zone and the Dunmore Box for herring spawning provides preferential spatial access.
Italy	Catch quota fisheries	Bluefin tuna, swordfish, small pelagics	Catch quota	One year	Individual quota (bluefin tuna), total quota pool (swordfish, Adriatic anchovy, sardines)	Bluefin tuna: historical landings, total number of operators and people, productivity and profitability rates, economic activities generated.	No information collected	Ministerial decree published the ministerial website.	No information collected	Bluefin tuna days at sea: selectivity of fishing gear, impact of fishing gear on maritime safety, distance from the coast, specific control measures.

Latvia	Non-coastal fisheries	Herring, sprat, cod	Catch quota	One year	Individual quota	Quota allocated to local governments who give preference to fishers who operate locally.	No information collected	No information collected	No information collected	No information collected
	Coastal fisheries	Herring, cod, flounder, round goby	Number of gears	One year	Total effort	No information collected	No information collected	No information collected	No information collected	No information collected
Lithuania	Distant water fleet	Jack mackerel, horse mackerel, northern prawn, sardines	Catch quota	15 years	Individual transferable quota	Historical landings; contribution to national taxes.	3 highest of the previous 10 years before allocation. Track record increased by the taxed component multiplied by 2.	All criteria for the allocation of transferable fishing concessions are clearly defined in the Law on Fisheries.	No	Some incentives for low-impact fishing gear but incentive limited by 15-year allocations.
	Baltic fleet	Cod, smelt	Catch quota	One year	Total quota pool	Historical landings; contribution to the local economy.	Best three years out of the last 10 years before the allocation. Track record is increased by 0.3% for each 1% sold at Lithuanian auction in the past 3 years.	No information collected	Local economy criterion incentivises landings to certain ports.	Track record increased by 5% if ≥50% of the fishing opportunities in the past 3 years caught with low-impact gears.
Malta	Catch quota fisheries	Bluefin tuna, swordfish	Catch quota	One year	Individual transferable quota (bluefin tuna), total quota pool (swordfish)	Bluefin tuna quota has been used to introduce a new small-scale fishery. This increased the economic resilience of fishers as their income was supplemented by a new species.	In 2019, part of the increase in the bluefin tuna TAC was reserved for small-scale coastal vessels with a licence for two years. 52 new small-scale fishers took up this opportunity.	Consultations, meetings and/or discussions attended by fisheries stakeholders.	No	The increase in bluefin tuna to small-scale fishers used low-impact fishing gear (hook and line).
	Effort fisheries	Dolphinfish, red porgy, red scorpionfish, octopus, bogue	Licences	Indefinite	Total effort	No information collected	No information collected	No information collected	No information collected	No information collected

Netherlands	Catch quota fisheries	Sole, plaice, cod, turbot, whiting, sprat, mackerel, horse mackerel, Norway pout, blue whiting, herring,	Catch quota	Undefined	Individual transferable quota, individual quota (sprat)	Historical landings. Quota is allocated to a MFL1 vessel andquota only transferable to other quota owners.	No need as transferable fishing concessions are used	No need as transferable fishing concessions used	No	Some quota reserved for landings <50kg
	SSF shellfish	Hand-picked oyster	Catch quota	Daily	Individually rationed quota pool	No information collected	No information collected	No information collected	No information collected	No information collected
	Effort fisheries	Dab	Licence	Indefinite	Total effort	MFL2 licence attached to vessel	No information collected	No information collected	No information collected	No information collected
Poland	Catch quota fisheries	Herring, sprat, cod, plaice	Catch quota	Undefined	Individual quota (large-scale fleet), total quota pool (coastal fishery, all Baltic plaice)	Allocation to vessel groups is not based on criteria but varies according to changing circumstances such as stock status.	Vessel size	There is a quota allocation advisory group of fisher representatives.	Two year 'use it or lose it' clause incentivises uptake,	No
Portugal	Catch quota fisheries	Anchovy, anglerfish, sardines, megrim, Norway lobster, hake, horse mackerel	Catch quota	One year	Individually rationed quota pool (most), individual transferable quota (hake), total quota pool (horse mackerel)	No information collected	No information collected	No information collected	No information collected	No information collected
	Alfonsino	Alfonsino	Catch quota	One year	No information collected	Geography (outermost region)	No information collected	No information collected	Marginal	No information collected
	Norway lobster	Norway lobster	Catch quota	Undefined	Individual quota (trawlers), total quota pool (other fleets)	No information collected	No information collected	No information collected	Use it, donate it, or lose it clause incentivises uptake.	No information collected

	Non-quota fisheries	Octopus, cuttlefish	Licences	One year	Total effort	No information collected	No information collected	No information collected	No information collected	No information collected
Romania	Catch quota fisheries	Turbot	Catch quota	One year	Individual quota	Vessel length	<10m, 10-15m, 15m+	Criteria stated in the law	No	Environmental: vessel length, whether the vessel has an engine, economic: quota uptake
Slovenia	Catch quota fisheries	Small pelagics (anchovy, sardines)	Catch quota	One year	Total quota pool	Historical landings	No information collected	No information collected	No information collected	No information collected
	Effort fisheries	Sole, gilthead seabream, pandora, seabass	Licences	Indefinite	Total effort	Historical landings	No information collected	No information collected	No information collected	No information collected
Spain	Non-coastal fleet	Blue whiting LSF	Catch quota	One year	Individual quota	Historical landings	First sale notes and landing declarations		No	No information collected
	Non-coastal fleet	Horse mackerel	Catch quota	One year	Individual quota	Historical catches (including discards)	Reference period 2013-2018		No	No information collected
	Coastal fleet	Horse mackerel, Purse seiners (8b)	Catch quota	One year	Individual quota	Historical landings; quota consumption	Historical allocation; quota consumption		No	No information collected
	Coastal fleet	Horse mackerel, Purse seiners (8c, 9a)	Catch quota	One year	Individual quota, co-managed quota pool (cofradias)	Historical landings; GT	Historical catches (70% first sale notes); GT (30%)		No	Vessel (GT)

	Coastal fleet	Mackerel, Purse seiners (8c, 9a)	Catch quota	One year	Individual quota, co-managed quota pool (cofradias)	Historical landings	Average of two scenarios: 70% historical landings and 30% GTs vs. 70% historical landings, 10% GTs, 10% crew members, and 10% lineal distribution.	General criteria stated in the law. Specific criteria for species, stock and distribution among gears published in regulation through the Official Journal (BOE). Aim to include all fleet segments and geographical distribution. Allocation discussed with fisheries organizations. Reference years for some criteria may introduce bias for some species.	No	Vessels (GT). For mackerel fleets in 8bc and 9, 7% of quota is allocated to vessels <50 GTs for catches during the second semester.
	Coastal fleet	Mackerel	Catch quota	One year	Co-managed quota pool (federation of cofradias)	Geographical distribution	By province (NUTS III level)		Marginal	No information collected
	Non-coastal fleet	Hake	Catch quota	Indefinite	Individual transferable quota	Historical landings			No	No information collected
	Coastal fleet	Hake gillnets	Catch quota	Indefinite	Individual transferable quota	Number of vessels in the fishery; employment; historical landings	50% equal distribution by vessel; 25% employment; 25% historical landings.		Yes	No information collected
	Coastal fleet	Hake, purse seiners, trawlers, SSF, Longline	Catch quota	One year	Co-managed quota pool (cofradías)	Historical landings; socioeconomics; exclusivity in the hake fisheries.	First sale notes and landing declarations 2002-2009.		No	No information collected
	Coastal fleet	Hake, SSF	Catch quota	Less than a year	Total effort	Maximum annual catch per vessel	Set at 10,000 kg/vessel. If exceeded, the vessel is removed from the fishery.		No	No information collected
	Coastal fleet	Nephrops	Catch quota	One year	Individual quota	Historical landings, socioeconomic dependence.	80% historical catches; 20% socioeconomic dependence.		No	No information collected

	Coastal fleet	Sardine	Catch quota	One year	Total quota pool	Quota uptake, quota reserve for traditional gear.	2.5% quota reserve.		Yes	Higher catch limit for traditional gear.
	All	Bluefin tuna	Catch quota	Indefinite	Individual transferable quota, total quota pool	Historical landings, employment.			Yes	Environmental criteria considered but dismissed due to similar fleet performance
	Quota swaps	Mackerel	Catch quota	Ad hoc	Individual quota, total quota pool	Needs assessment.	Economic value in the last 3 years. 40% based on regular distribution, 60% fleet in need.		Yes	Gear selectivity (≥20% reduction in bycatch, ≥20% reduction in catches below minimum size).
Sweden	Pelagic	Herring, sprat, sandeel	Catch quota	10 years (active gear), one year (passive)	Individual transferable quota (active gear), total quota pool (passive)	Historical landings, separated quota for coastal passive gear fleet.	No information collected	Before deciding an allocation system, all the criteria are discussed with representatives of fisheries organisations, municipals, scientists and other interested parties.	No	Separate allocations for the passive gear fleet (i.e. low-impact). Additional quantities of Norway lobster have in the last years been allocated to the selective fishing methods within this fishery (pots and trawl with selective grid).
	Demersal	Cod, plaice, Norway lobster	Catch quota	10 years (active gear), one year (passive)	Individual leasable quota (active gear), total quota pool (passive)	Historical landings; separated quota for coastal passive gear fleet.	No information collected		No	
	Shrimp	Shrimp	Catch quota	10 years	Individual leasable quota	Historical landings; regional fishing opportunities.	Based on ration class and active fishing months. Typically benefits less active vessels (i.e. smaller vessels).		No	

United Kingdom	Catch quota fisheries	Cod, haddock, mackerel, herring, hake, whiting, monkfish, sole, plaice	Catch quota	Undefined	Individual transferable quota (sector), individually rationed quota pool (non-sector and pools)	Historical landings; underpinning of TAC for pools of under 10m vessels.	Register of buyers and sellers 1994-1996	Detailed rules published online. Under 10m vessels were not required to record landings during the reference period.	No, unintended effect of some vessels switching to 9.9m vessels (super under 10s).	Under 10m pool underpinned quota, quota top-sliced quota from 2013, and received extra quota from 'top-ups'. Mackerel box provides preferential spatial access.

4.4 Discussion and summary of findings

The use of social criteria in EU fisheries is still in its infancy. Not only is Article 17 and the requirement to use social criteria in the allocation of fishing opportunities a new addition in the most recent CFP reform, since CFP adoption there have been very few studies in this space. Perhaps the clearest illustration of this gap is in the paucity of Member State impact assessments. The Commission's 2020 request to Member States to provide information on their allocation system included a question on impact assessment and only two Member States (Sweden and Denmark) reported conducting such an assessment. As for the Member States who failed reply to the request, no additional examples of impact assessments were uncovered by the EWG.

In such a new area of study, the findings recorded here should be treated with caution. Some of this information was recorded for the first time or based on a single source. Furthermore, working in a new area of study makes assessment challenging as it requires a level of detailed understanding and confidence regarding each national system that was not present in the EWG. An assessment of whether a Member State is applying social criteria, as required by Article 17, is also an extremely sensitive conclusion, so the emphasis here has been to document information rather than provide a yes/no or traffic light judgement on national systems. This challenge was made even more difficult by the need to cover all 23 Member States with limited time to analyse each one in detail.

Even with complete information and ample resources it may be difficult to come to a satisfactory assessment of the use of social criteria in the allocation of fishing opportunities. As noted above in definitions subsection, many criteria are social in nature - including extremely common criteria such as historical catches or vessel length - but fail to directly engage with many of the important social issues identified in EU fisheries. Therefore, even a fully comprehensive analysis would likely find high legal compliance with Article 17, but without the transformational change to EU fisheries that was anticipated when Article 17 when adopted. There are no recorded instances of Member States changing their allocations in 2014 when reformed CFP and Article 17 came into force, suggesting a minor or non-existent impact. Only one Member State (Ireland) cites Article 17 in its management rules and descriptions.

In one high profile example, this compliance issue was put to the test when Greenpeace UK took the UK government to court over a failure to properly implement Article 17. The Greenpeace case rested on the failure to apply environmental criteria (rather than social criteria) and focused primarily on the disparity in allocations between the large-scale and small-scale fishing fleets despite the small-scale fleet having lower environmental impacts in many fisheries. The court ruled in the government's favour, making the judgement that: "Whilst Article 17 obliges each Member State to include criteria of an environmental, social and economic nature, on the face of it, it is silent as to the weight to be ascribed to those criteria in the allocation process." This ruling confirmed the wide discretion Member States have over the allocation of fishing opportunities.

Although not specifically implemented because of Article 17 or any other legal requirement, the EWG did however find many examples of Member States using social criteria in the allocation of fishing opportunities (see previous table). Furthermore, when viewed across Member States, some trends are visible:

- The historical catch criterion is the primary means of allocating fishing opportunities in every Member State;
- In many systems a criterion (or multiple criteria) is used to separate the allocations of fishing opportunities for the small-scale fleet;
- Most systems cannot be described as incentive-based as historical landings and vessel size are fairly fixed properties;
- Social criteria are more commonly applied when 'new' quota is introduced (e.g. swaps with other member states in Spain, top-ups from the landings obligation in the UK) or when a fishing opportunity becomes more abundant (e.g. bluefin tuna quota in Spain and Malta);
- There is a trend towards some systems of allocations (e.g. individual transferable quotas), but this is not universal (e.g. Poland);

- There is a trade-off between the duration of fishing opportunities (i.e. the security of holdings) and the use of incentive-based allocations, as well as use of social criteria more broadly;
- Newer systems (e.g. Finland, Swedish demersals) show evidence of learning from older systems (e.g. Netherlands), for example pairing individual transferable quotas with limits to duration and sectioning off a quota reserve for new entrants;
- Some of the most innovative systems are in smaller Member States, possibly linked to a smaller number of stakeholders to organise.

There does not appear to be any clear trend in the use of social criteria base on geography, type of fishing opportunity, or political culture. Some of the same social criteria are found in Member States in different seas, for both quota and effort, and for Member States with more or less protective social safety nets. Conversely, some neighbouring Member States with similar fisheries are nearly polar opposites in their allocation systems (e.g. Belgium and the Netherlands).

There are also examples of divergence between Member States including:

- The treatment of age (e.g. targeting the young in Denmark, Bulgaria, Greece and the old in Croatia);
- The role of stakeholders in the allocation process and which stakeholders are involved (e.g. NGOs and wider society);
- System transparency (e.g a full in points-based assessment in Bulgaria and Greece contrasted with unclear assessment in France and Italy);
- System flexibility between years (e.g. informal aspect of Poland's system)and within a year (e.g. changes within the year in Belgium and Ireland);
- System complexity (dozens of separate systems by species and area in Spain contrasted with a dismissal of social criteria in the Netherlands).

It is also clear that not two Member States use the same system of allocating fishing opportunities or even the same mix of social criteria. While this was expected, it significantly complicates comparative assessment of systems because each Member State cannot be easily grouped with others. For system impact assessment, like TOR 3 considers, a case study approach is likely more appropriate.

5 IMPACTS OF NATIONAL QUOTA ALLOCATION SYSTEMS ON SOCIAL SUSTAINABILITY (TOR 3)

Social impacts of quota allocation systems

The assessment of social impacts requires among others metrics and a baseline to be compared with the situation after the introduction of the national allocation systems. As already studied in geographical areas with a longer trajectory in catch share programs, as the US, the establishment of causality in this context is problematic. The quota allocation system coexists with other factors that have a social impact in the fleets and their communities, as changes in market conditions, variability of target and non-target stocks, and other external drivers (as fuel prices, economic crisis or most recently the COVID19 crisis) for which it is not controlled for in the consulted literature. The coincidence of these causal factors is more common the longer the quota allocation system has been in place (Brinson and Thunberg, 2013). Therefore, we would interpret any results in terms of coexistence of social effects and quota allocation systems, not necessarily of causality.

The conceptual definition of social impacts was not clear at the meeting and was merely deducted from the case studies in an intuitive manner. More work on this respect in cooperation with the ICES working group on social indicators (WGSOCIAL) was judged necessary on this topic. A brief literature review performed at the meeting identified some social impacts from studies outside the EU. In Australia, a review by Pascoe et al.(2017) identified the inequitable initial allocation,

the evolution of non-quota owners and lease-dependent fishers, the concentration of quota, the conflicts with cultural norms and traditional ways of life, the nature (full time vs part time) and remuneration of employment, the quality of fish, the safety of fishing operations, the asset value of quotas, the access to newcomers and the capturing and redistributing of resource rent. For the US, a review by Olson (2011) also identifies changes in employment size, structure and quality (e.g. fishing vs processing), and adds the shift in activity from small ports to larger ones, the change in the occupation of family members, the possibility of community and cooperative quota, working conditions, debt dependency etc. In addition to these reviews on concrete impacts, other literature from outside the EU has tackled the issue of designing an analytical framework for the design and assessment of quota allocation, such as Smith et al. (2019) and Clay et al. (2013). While more studies are based on participation and/ or indicators (e.g. based on employment, Curtin Keating 2017) some studies with anthropological methodologies also exist (Donkersloot et al. 2020).

The comparative analysis before-after the introduction of the quota allocation system, together with an identification of claims and objectives are critical to assess whether allocation criteria have been designed to introduce shifts in the system or to preserve the status quo. The depth and breadth of the changes vary greatly across MS. The analytical framework of Döring et al. (2016) was presented at the EWG as a possible first step to analyse the design of allocation criteria under an equity lens, by disentangling the different conceptual elements of the design. Despite their design by the government, some quota allocations in Europe under the form of ITQ systems can be viewed as a delegation of management to the market. In this respect, some MS as The Netherlands and Finland have justified their lack of application of article 17 by affirming that the state no longer has the possibility to establish quota allocation criteria. Despite this delegation, the quota allocation mechanism (in this case, the national quota market), has some social effects, In this respect TOR 3 is still applied and the example of The Netherlands is presented further below.

Overall, historical catches are used by all MS, pointing out an interest to maintain the status quo and protect the previous investment of fishers (Smith et al. 2019). On the contrary, only a few MS use more social criteria, such as percentages of national/young crew or national marketing of landings. Assessing the impact of combined criteria will be relevant for further improvements across the systems.

Methodology

The TOR presents some continuities and some differences with TOR 2. As a continuity to TOR 2, allocation criteria were used to analyse their possible social impact. As a difference, this TOR focuses exclusively on quota allocation systems (as opposed to fishing opportunities, that also include e.g. effort measures) and has a particular focus on the small-scale fishery.

The work was undertaken in cooperation with the team addressing TOR 2 in a sequential manner, to better allocate the resources available under the form of expertise and limited time at the meeting. The methodological approach consisted in the following steps.

1. A collection of literature (both grey and peer review) prior to the meeting on the topics of allocation criteria and social impact of allocation systems

2. An examination of the allocation criteria in the answers provided by the Member States to DGMARE for the meeting as well as additional sources. For those Member States that did not provide a reply, primary sources (e.g. legislation) and secondary sources (experts and experts consultations) were combined.

3. A grouping of the criteria according to the categories extracted from the literature

4. A literature analysis on selected EU case studies to identify social impacts related to some of the allocation criteria from the previous step, as well as their use of qualitative and quantitative data.

5. Drafting of recommendations for the assessment of social impact and specification of related data needs (both quantitative and qualitative)

Accordingly, the work plan consisted on a first step to collaborate with the TOR 2 team to identify criteria in the MS answers and additional literature on criteria, and subsequent steps where the group produced a table grouping quota allocation criteria and identifying their particularities (Table 5.1) and individual experts linked them to social impacts assessed in the literature, then reaching a consensus with the group. Finally, the recommendations and data needs were derived.

The table classifying the quota allocation criteria divided these criteria first in those specific for small scale fisheries. Then a second section of the table presented the most common social criteria (see TOR2 for definition): those based on a historical record of catches and those with a community dimension (including the promotion of insular communities). In a third section the table displays social criteria based on employment, from employment requirements (such as training), to particularities of the owner and the crew and schemes for young fishers and newcomers to the fishery. The fourth section of the table shows some management criteria, as the obligation to sell the landings in a national auction, the existence of entry fees (or cost recovery), limits to transferability and concentration and issues of compliance, incentives and safety requirements. Table 5.1 presents some other broad types of criteria that, not being social, may have social impacts, such as spatial, environmental and economic criteria. The table also has space to flag Member States where a shift in quota from the SSF to the LSF has occurred or could potentially occur.

Table 5.1: Classification of national quota allocation criteria

Criteria	Belgium	Bulgaria	Croatia	Cyprus	Denmark	Estonia	Finland
SSF		Vessels less than 10 meters receive 5 points, from 10.01 to 11.99 meters – 3 points, 12 and more – 1 point.(see environmental)	n.a.		Closed system for coastal fishers		
Historical	Yes	Priority for those with history in turbot	n.a.	Yes	Yes	Yes	3 best years of a 5 year period
Community (incl. Insularity)	See crew national		n.a.				
Training in fishing			n.a.				
Employment		Incentive to hire crew on contract	n.a.				
Owner on board			n.a.				
Crew national	Economic link for "quota hoppers": 50% of crew must reside "in the region of the Belgian coast"and/or at least 50% of annual catch is marketed through Belgian auctions		n.a.				
Young fishers		One point if the captain/crew member is under 30	n.a.		Young fishers (<40 yrs) buying their first vessels get a quota loan for 8 years , which can be allocated to other young newcomers then. "Fisheries fund scheme"		
Newcomers		Newcomers can enter the quota competition if they meet the criteria and have enough points.	n.a.				4% of the TAC was reserved as non-transferable quotas for newcomers
Auction national	Landings registered in Belgian auction; 50% of landings market through Belgian auctions		n.a.				
Entry fee			n.a.				
Transferability	Non-transferability without possibility to circumvent		n.a.		(See SSF-->LSF)		Excluding the quota under the newcomers´scheme
Concentration cap			n.a.				
Duration	Maximum one year, use rights allocated twice a year	One year	n.a.		16 yrs		10 yrs
Incentives based	No	Points system: employement, size...	n.a.		Fishfund can be used as an incentive for fishers to participate in research or trial innovative technologies		
Compliance			n.a.				
Maritime safety			n.a.				

Spatial	Allocations by area are common; also coastal fleet segment		n.a.				
Environmental	"Generic" measures for the entire LSF: two types of escape panels	Small fishing vessels, that usually consume less fuel and thus have less emissions and fishing activities are more environmental friendly One of the criteria is the number of installed active acoustic devices for repelling cetaceans, on their gillnets, used for catching turbot, example – if the fishing vessel has 1 installed device it receives 1 point, if it has 5 or more devices it received 5 points.	n.a.			fishing depth, fishing methods and gear restrictions	
Economic	See crew national		n.a.				(Economic efficiency)
SSF --> LSF	LSF better represented and with more access to quota, but SSF seems well-protected against this		n.a.		Limit to transferability: not possible from SSF to LSF		

Criteria	**France**	**Germany**	**Greece**	**Ireland**
SSF	Most SSF in "non-PO affiliation"segment. Mostly dependent on licenses, implying non quota species, due to quota restrictions (1% of national quotas)		For Bluefin Tuna more points for SCF (vessels<12m) and crew of up to 4 persons	Quota allocations set aside for polyvalent fishers without track records (artisanal gillnet and hook and line fishing, herring ringnets and surface longlining of albacore tuna)
Historical	General rule: historical track records 2001-2003; some POs also consider other criteria (e.g., 2008-2010 or maximum yearly catch in past 10 years)	Period 1986-7 and 1989-90 for the North Sea and Baltic Sea respectively	Last 2 years for large pelagics	In demersal fisheries catch limits generally take account of the length of fishing vessels with large vessels being allocated double that of smaller fishing vessels; the market situation for fish; and in certain fisheries the allocation takes into account the type of fishing gear deployed. In pelagic fisheries, allocations take account of historic activity for the relevant fleet segment. Within these allocations, it has regard for the length of fishing vessels and or the historic fishing pattern of the vessels in the segment.
Community (incl. Insularity)	Insularity: provisions apply for Overseas Areas but not for mainland France (at least not in fisheries legislation; general tax exemptions apply)		a)Place of permanent residence (small island) b) minor or disabled children	
Training	Only indirectly *(for statut armateur*-shipowner)	3 yrs training in fisheries required		
Employment	(not directly it seems)	Previous employment in the fishery		
Owner on board	Not for allocations directly but an important criterion for the definition of "artisanal" fishing operations: embarked-owner, sole proprietorship, (family-based fishing), vessel up to 25 m. This also corresponds to a firm statute (société de pêche artisanale) which is beneficial in terms of taxes and gives SSFs and young entrants the opportunity to a gradual acquisition of capital (and thus: track records and fishing opportunities)			
Crew national	Not for allocations directly, but for establishment and operation of foreign-owned firms (e.g. skipper has to follow course, pass exam, speak French)			
Young fishers	20% preemption when vessel is sold, according to official documents to be redistributed to SSFs and newcomers (young fishers)		Two (2) authorisations a year for fishermen under 40 years of age who have not had a tuna fishing authorisation before	
Newcomers	20% preemption when vessel is sold, according to official documents to be redistributed to SSFs and newcomers (young fishers)	A newcomers scheme was set up only in 2011, through which scrapping inactive vessels (and thus saving costs) was temporarily allowed with the condition that 5% of their quota would be allocated to newcomers.	(see young fishers)	Expoitation licenses: no capacity rights set aside

Auction national	(no; see Article R921-4 for "economic link")			
Entry fee				
Transferability	No-with possibility to circumvent (de facto quota market through the vessels market)			Quotas are non-transferable and non-leasable
Concentration cap	None (non-transferability is considered enough but this is certainly not the case)			NA (But vessel power and capacity are capped within fleet segments)
Duration	Maximum one year (but perceived secure by operators)	1 year/y month		1 year
Incentives based				
Compliance				
Maritime safety				
Spatial	Spatial limitations for coastal fisheries (*bande côtière)*			See environmental below
Environmental	Some allocations (from the track records reserve) based on gears and environmental criteria		Use of selective techniques	Ban on trawl fishing in 6 nm zone
Economic		% income from fishing, efficiency and sufficient market supply	Improving quality of fish through the vessel has two permanently fitted refrigerators, fishing trips only 24h and only in Greek waters	(vessel length), "market situation"
SSF --> LSF	The implicit price of fishing opportunities has prevented many SSFs from obtaining track records and even PO membership needed for accessing TAC species			

Criteria	**Italy**	**Latvia**	**Lithuania**	**Malta**	**Netherlands**	**Poland**	**Portugal**
SSF	See spatial: minimum distance from the coast to avoid interaction with SSF	n.a.		Bluefin tuna quota has been used to introduce a new small-scale fishery. In 2019, part of the increase in the bluefin tuna TAC was reserved for small-scale coastal vessels with a licence for two years		Total quota pool <8m for central herring, <12m for sprat	See spatial, also separate pools for small-scale and coastal fleets
Historical	Yes	n.a.	Based on 3 best years out of 5/10		Yes	Yes (different years for different TACs)	Yes
Community (incl. Insularity)		n.a.	(see Economic)				See Spatial
Training in fishing		n.a.					
Employment	People involved in each fishing sector (unclear)	n.a.					

Owner on board		n.a.					
Crew national		n.a.					
Young fishers		n.a.			Quota is only transferable to other quota owners (not outsiders) makes it nearly impossible for outsiders to buy ITQs.		
Newcomers		n.a.	1% of quota for the Baltic Sea fleet and 5% for the distant fleet				
Auction national		n.a.	The reference data shall be increased by 0.3 per cent for each per cent of the fish sold at the local auction in Lithuania during the last 3 calendar years, calculated from all fish of particular species caught by the operator during the same year.		Obligation to sell through a Dutch auction (for transparency)		
Entry fee		n.a.					
Transferability		n.a.			See young fishers above	Leasability was removed in 2017	
Concentration cap		n.a.					
Duration	1 year	n.a.	15 years (annual auction)	2 years for SSF	5 years if not fishing	2 years "user it or lose it" (back to the state)	
Incentives based		n.a.	See auction national above				
Compliance	Specific control and/or observation measures applicable to each fishing sector	n.a.					
Maritime safety	Impact of each fishing gear in terms of maritime safety;	n.a.					
Spatial	Distance from the coast of the fishing area related to each fishing sector are regulated	n.a.	see econ				Geography (outermost region), e.g. 85% of Alfonsino TAC to Azores
Environmental	Selectivity of each fishing gear, considering its technical capacity to avoid and/or reduce under-minimum sized and/or accidental catches (especially in terms of non-targeting species as well as protected ones)	n.a.	incentives are provided to fishing vessels deploying selective fishing gear or using fishing techniques with reduced environmental impact	Sustainable exploitation of marine biological resources.increase in quota to small-scale fishermen that use hook and line (low-impact fishing gear).			
Economic	Productivity and profitability rates of each fishing sector; - economic activities generated by each fishing sector.	n.a.	contribution to the local economy, (ancillary industry?) incentivises landings to certain ports	increased the economic resilience of fishers as their income was supplemented by fishing for a new species			
SSF --> LSF		n.a.					

Criteria	Romania	Slovenia	Spain	Sweden	UK
SSF			Maximum year catch (10000kg per year) to protect smallest SSF from bigger SSF boats doing olympic fishing	SSCF fishing with passive gears for which unallocated quotas are reserved.A model other than historical fishing, based on previous ration class and active fishing months, is used for the distribution of North Sea shrimp. This generally means that the less active vessels (mainly smaller vessels) benefit compared with if the distribution took place according to historical fishing.	Under 10m vessels are managed in pools. In 2011 underused quota was permanently transferred from POs to the pool. Quota top-ups for the landing obligation have also been disproportionately allocated to the pools.
Historical	Quota allocated to the vessel in the fishing area allocated in the previous year	Yes	1st criteria. Check in October, according to last 5 yrs, individidual vessels/cofradia would be capable of catching their quota. If not, it would be redistributed.	Yes	Yes (1994-1996 through the register of buyers and sellers)
Community (incl. Insularity)				See spatial	Must meet one of four economic link conditions: 50% of of landed weight to the UK, 50% of crew days by UK nationals, 50% of operating expenditure, donating 10% of the value of catch landed overseas to the undero 10m pool
Training in fishing					
Employment					
Owner on board					
Crew national					See community
Young fishers					
Newcomers					
Auction national					
Entry fee					
Transferability			see flexibility comments		Quota transfers need to be approved. Quota cannot be transfered out of the Under 10m pools.
Concentration cap					
Duration					Legal ambiguity
Incentives based			See historical		See environmental below
Compliance	Fulfilling the reporting obligations according to European and national legislation (functional equipment VMS, sending notifications in time, sending first sale notes in time, monthly reports, fishing logbooks, catch reporting, periodic ANPA requests for data collection, for the previous year, etc)				
Maritime safety					
Spatial	See historical		Geographic distribution of quota conflictive. Different areas correspond to different migration stages of	Another way in which the system considers social (and regional) criterions is so-called regional fishing opportunities.	The mackerel box in Cornwall is reserved for under 10m fishers using hook and line

			BFT (Canary islands; Basque quota sold to Andalusia)		
Environmental	Environmental: Type of vessel - i.e. length/fleet segment, with or without engine			Upon governmental assignment, SwAM will further investigate the creation of incentives for fishing vessels using selective and environmentally friendly fishing gear, including reduced energy consumption and damage to habitats in line with Art 17	The Scottish Conservation Credits scheme allocated additional days at sea to vessels using low-impact trawls
Economic	Achieving the quota allocated to the vessel in the fishing area allocated in the previous year		Optimisation of the use of quota according to the gear/technical characteristics of the vessel		See Community above
SSF --> LSF					

Examples of social impacts of quota allocation in some EU MS

In this section we focus on specific social impacts on small scale fisheries and shifts of quota from SSF to large scale fisheries. Redistribution of fishing opportunities through transactions between fishers is possible in most EU quota management systems, either through vessel transactions on the second-hand market (e.g., France, Ireland) and/or through quota trading in a formal quota market (e.g., Denmark, Netherlands, UK). In other countries (e.g., Belgium) neither is possible, and the administration takes on the role of efficiently redistributing fishing opportunities among fishers.

Without the right measures in place, redistribution of quotas through market transactions may lead to "quota shifts" from small-scale fisheries (SSF) to large-scale fisheries (LSF). These shifts are usually assessed on the fleet segment level, based on vessel size (see the case of Denmark in Said et al., 2020). However, it was discussed in the group whether other elements of scale should be taken into account to draw a more complete picture. We argue that, in addition to vessel size, the number of vessels within a fishing firm is another important element for assessing quota shifts. We will illustrate this using the example of France.

The definition of "artisanal" fisheries in France is based on two elements. The first is the profile of the owner-operator (embarked, invests his/her own capital, manages the firm technically and economically) (Debeauvais, 1985). The second element is the fishing vessel: the owner-operator operates 1 fishing vessel up to 25 meters. Vessels larger than that are considered large-scale (pêche industrielle). In practice, however, an increasing number of "artisanal" operators are seen to invest in multiple fishing fishing vessels < 25m (horizontal integration). One example is a fisher with 9 vessels of which 8 are under 12 meters (Kinds et al., in prep.). The question here is thus not how fishing opportunities flow from SSF to LSF, but how they are redistributed among fishers within the SSF (<12 m) segment.

This not only presents a reduction of the number of independent SSF fishers per se, but also makes later redistribution of those vessels through acquisition difficult. This is related to the pre-emption of 20% of track records when a vessel changes hands (no loss when the entire company is sold, i.e., the legal owner stays the same). To avoid such loss, prospective buyers would need to buy the entire company at once. This raises questions about access for peers (especially young skippers) as well as the socio-economic profile of future buyers and the loss of fishing capital from local fishing communities (Kinds et al., in prep.)

Due to barriers to entry (institutional and other), some artisanal fishers have accepted co-investment from large fishing firms, in order to be able to renew their fleet and invest in state-of-the-art vessels (Kinds et al., submitted). In all observed cases (n=3), the artisanal fisher stays the majority shareholder, and thus has the legal title to the fishing opportunities attached to the vessel. More research is needed to assess this situation better, but it highlights the sometimes difficult access to sources of funding, and the route some fishers are willing to go.

Social impacts in EU countries range from unbalanced allocation of initial quota due to controversial historical criteria in quota allocation (Spain) or malfunctioning concentration caps (Denmark), to unequal spatial distribution of quota due to lack of consideration of migration behaviour (Spain) or problems of efficiency under the form of wasteful use of quota (Spain, UK). Examples of criteria and possibly connected social impacts are given below.

Denmark

Quota allocation in Denmark is based on historic catch records and has two different systems for SSF. The limited coastal fishing scheme from 2007, based on vessel size, time at sea at historical track records, allocates extra VQS (Vessel quota shares) to those vessels with previous ownership of quota in a directly proportional way. A 2016 scheme, the "protected" (unlimited) coastal fishing scheme uses the same criteria as the above, in addition to this favours fishers using low impact

gears but prohibits the switch to LSF, providing significant extra quota allocation (about four times more as the previous scheme) as a compensation (Said et al. 2020).

Other characteristics of the Danish system are the possibility of using quota as a collateral, the allowance to lease quota and the establishment of some limits to concentration (e.g. maximum 5% of cod quota per fisher, Pascual et al. 2020). The implementation of the concentration limits was deficient according to the Danish National Audit Office, which noticed use of incomplete data to follow up existing concentration and lack of quality in the administration of quota operations (Pascual et al. 2020).

The evolution of the fleets after the measures mentioned above included substantial concentration in large scale segments and access problems for SSF especially for younger fishers (see Fig. 5.1). As an example, only 58 fishers joined the newer, protected coastal fishing scheme, maybe because of the lower market value of their quota (Said et al., 2020). Spatial distribution effects have also taken place from smaller ports where the quota allocation was originally allocated to larger ports (Host 2015), and landing in foreign harbours has increased significantly (from 10% in 2004 to 20–25% in 2016, according to Pascual et al. 2020) with the negative social effects that this could imply for the smaller coastal communities.

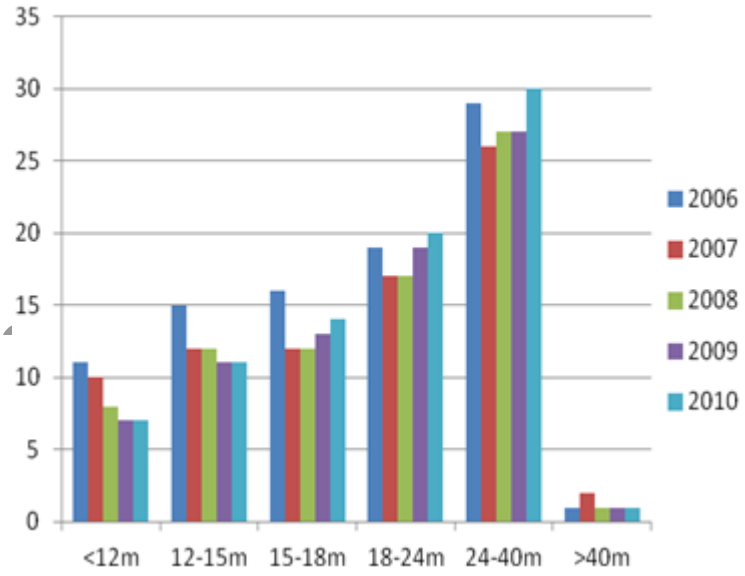


Figure 5.1: Evolution of the distribution of quota rights for demersal species. Quota ownership at 31st December except for 2006, which corresponds to 1-1-2007 (Katzen et al. 2019).

Malta

In Malta quota is distributed according to historical records. In 2005 the purse seine fleet made inroads into the sector by leasing quotas. In 2009 a market-based governance system was introduced. The purse seine fleet controls the market of ITQ leasing.

The organisation of the quota allocation system has allowed concentration in the ownership. The prices of fishing permits and quotas have increased, which together with limited access to capital difficults the access to quota. The SSF fisher is totally dependent on the ITQ leasing systems. This situation has led a concentration in the ownership towards LSF and to conflicts among fleets, (Said et al. 2020).

The Netherlands

The quota allocation system in The Netherlands in based on historical records, however, it is not until 2007 that data was collect on SSF. Leasing quota is allowed, but only for fishers that already own quota, according to a regulation of 1985 (Hoefnagel and de Vos, 2017). This apparent equal access to quota for SSF and LSF is in practice a strong obstacle to access for the SSF (Carpenter and Kleinjans 2017). There is a limitation of 5 years that quota can be leased by someone not operating a vessel, after which the quota could return to the state (Hoefnagl and de Vos 2017). A part from the quota system, banks are reluctant to accept quota as a collateral for fishers to start their business.

The social phenomena associated to this quota allocation system is a systemic difficulty for newcomers not belonging to a family with quota to access the sector. This is due to the prerequisite to own quota in order to lease it, but also to the high lease prices and the lack of access to funding. Concentration in the sector is difficult to establish, for instance in the fleets targeting sole, the species with the highest economic importance. Even though the number of gillnet fishers targeting sole declined from 48 to 12 in the period from 2013 to 2017 (Pascual et al. 2020), the inequality in the distribution of quota did not increase, and the decrease in landings and revenues was even larger than that of the number of fishers (Hoefnagel and de Vos, 2017). The amount of quota owned by non-active fishers was up to 30% of the total quota in 2010, but it has been reduced to 7% in 2016 "due to deaths of quota holders and selling of quota by heirs (Hoefnagel and de Vos, 2017). Considering participation, the Dutch system could be considered as giving the fisheries sector as a group a role as steering the quota allocation system from the state (van Hoof 2013).

Portugal: ray

For the analysis of the quota allocation system the EWG subgroup focused on the study limited to one particular species, rays, given the limited evidence available. The case study highlights the role of international organizations in EU quota allocation (IUCN and ICCAT) in particular for SSF. The classification of the undulate ray as an endangered species lead to a prohibition of catches, the ray fishers established a collaboration within an ongoing research project to get a license (experimental fisheries). The gear criteria to participate was the use of trammel nets, the fleet criteria, to be part of the local fleet and have as historical catches landings prior to 2016. The criteria changed in 2019 (after 5 years) to include other boats without large historical catches of the target species (ray) but catches of other two species. In addition to the criteria mentioned above, and according to MS data delivery on the application of article 17, licensing accounts for the economic dependence of communities involved in traditional fishing and the history of compliance.

Said et al. (2020) point out that the extent to which the policy provides access to small-scale fishers at large through social justice criteria, and thus to the sustainable continuation of the sector, remains questionable. The quota allocation system generates winners and losers within the fleet due to the limited number of licenses. Restrictive quotas resulted from IUCN inclusion of the target species in the list of endangered species Quota limited are limited to SSF, excluding trawlers. Despite this, Pita and Gaspar (2020) remark that in general (beyond the ray CS) SSF do not have a differentiated consideration in terms of management, hence they are more exposed to competition with LSF

Spain: Bluefin tuna

The quota allocation system in Spain combines species, fisheries and fishing gears, defining a complex, tiered and multilevel system. For the blue fin tuna in the Atlantic and the Mediterranean, the initial allocation in 2008 applied a historical criterion, but the time series considered benefited gears with intensive fishing capacity (purse seiners and *almadrabas* (large

traps)), that got around 60% of the quota (Said; Pascual-Fernández et al., 2020). Time series dismissed the impacts of large-scale fisheries development in the fleet segments' recent records, excluding the facto traditional SSF fishing gears and in particular the Canary Islands hook-and-line segment. Historical catches from longer time series showed this segment had more than 15% of the catches up to 1981 (Díaz de la Paz; Pascual Fernández et al., 2017). The criteria applied initially in quota distribution got the hook and line fleet from the Canary Islands in 2008 up to three percent of the quota, shared with other small-scale fleet and recreational fisheries, only as bycatch when targeting other species (Orden ARM/1244/2008, de 29 de abril).

The quota allocation system has been, however, permeable to change. The perception of an unfair distribution was the driver to mobilize knowledge/power through the Regional Government of the Canary Islands and fisher organizations in the region, supported by University reports that challenged the regulations of the national government, by collecting information about historical catches and the comparatively small environmental impacts of the Canarian fleet. This evidence supported the sector and Regional governments claims and advocacy for changes in quota allocation. As a result, the initial allocation was reviewed and the SSF got an increase up to 7,9263% of quota allocated (Real Decreto 46/2019, de 8 de febrero). It should be noted that this revision of quota distribution was facilitated by an improvement in the stock status and an increase in national quotas.

UK

In 1999, the UK Government formalised its quota allocation system by ending the use of three year rolling track records and freezing in place the 1994-1996 track records through the new system of 'fixed quota allocations' (Carpenter & Kleinjans, 2017). FQAs are split between producer organisations that manage quota on behalf of their members ('the sector') and vessels that fish from government quota pools (the 'non-sector' and 'under 10m pools').

The use of FQAs fostered a more secure investment environment and significant purchases by both domestic and foreign fleets. The result of these investments is that large shares of UK quota are now held by foreign companies (e.g. Dutch ownership of English pelagic quota and Spanish ownership of Welsh demersal quota) (European Commission, 2019).

Another long-standing impact of the UK quota management system is the exclusion of the small-scale coastal fleet, defined in the UK as vessels under 10 metres in length. The method of initial allocation was based on the register of buyers and sellers, but in the 1990s under 10m vessels were not required to record their landings through this system. While this exclusion was intended to ease administrative burden, the result was the exclusion of the fleet from formal records and the initial FQAs. The UK government employed an estimation methodology for the under 10m fleet, but some fishers have complained that the methodology underestimated the true extent of their fishing. Without track records, under 10m vessels have also been effectively shut out from producer organisations, despite efforts to open up POs and for the newly created Coastal Producers Organisation to be delegated quota management responsibilities. Conversely, the under 10m pooling of quota and more limited reporting requirements also led to many vessels registering 9.9m - by far the most frequent vessel size in the UK fleet - with some fishers even modifying their vessels to fit under the 10m threshold (Davies et al., 2018).

As FQAs accrued in value, and many TACs declined in size, under 10m fleet has struggled to gain a hold in quota fisheries. In 2012, the UK government 'realigned' consistently unused FQAs from the sector to the under 10m pools. This decision was challenged by the UK Association of Fish Producer Organisations and although the UK Government won the case in court, the judge confirmed that there had developed a "legitimate expectation" around quota shares had formed, despite this expectation being "built very much of sand" as "no-one can own the fish of the sea" (Carpenter, 2018).

This legal ambiguity over quota holdings, also found in several other Member States, may be one of the major reasons why the UK quota allocation system has remained largely unchanged with reallocations only occurring at the margins. Besides the unused quota realignment, the UK government has also taken opportunities to allocate more quota to the under 10m pool through

the quota donations as part of the economic link licensing criteria, and a preferential allocation of quota that was received as 'top-ups' for the landing obligation. Taken as a whole, there has still been a concentration of quota in the sector compared to the under 10m pools, although this is mainly due to large, pelagic stocks (e.g. blue whiting) increasing in size. When analysed in terms of individual species rather than total tonnage, there has been a small shift towards the under 10m pool (MMO, 2019).

In the context of assessing impact, it is more clearly the case that the UK quota management system - extending from the legal ambiguity of the system - is not a dynamic force in UK fisheries, rather it has kept outcomes relatively constant. A lack of impact is an important social issue however, especially for those who feel excluded from the initial allocations or use fishing methods that they feel are more deserving (Gray et al, 2011). Recent UK policy texts suggest that the government is aware of the social dimension of quota allocation and would like to use 'new quota' to help address these issues (Defra, 2018).

Participation

The social impact of the national allocation systems is also related to the participation in the fishery, first in the design process of the system and then in its implementation. Many Member States have declared different participation mechanisms to set the quota allocation criteria, including for example the geographical distribution of quotas in Spain involving the central governments, autonomous region governments and the associations of the long tradition "cofradias". Another example is the Dutch system, which could be considered as giving the fisheries sector as a group a role as steering the quota allocation system from the state (van Hoof 2013).

For quotas allocated on a yearly basis and from a common pool quota (see TOR2), participation is frequently used as a mechanism to generate consensus, reduce conflict and generate buy-in among fleet segments and gears.

For the importance of participation in the implementation of the national quota allocation system itself it would be interesting to look at the link between membership into fishers´ organization (POs, fisheries committees, cooperatives) and access to fishing quotas opportunities. Issues as access to knowledge and information, as well as power inside the decision structure, or access to credit in case of transferable quotas are of relevance for the social impact of quota regimes (Said et al. 2019), this analysis is beyond the resources available at the meeting.

Data requirements for future social impacts assessments

One of the most direct quantitative data needs would be the information at a regular basis on quota distribution before and after the initial allocation between SSF and LSF. This distribution has been observed in the literature and has also been delivered by several Member States for the questions prior to this meeting. Some examples of current distribution of quota among SSF and LSF can be seen in table 5.2 below.

Other required information would be related to metrics used for incentives to receive quota, such as employment, age of employees, nationality of crew etc, before and after the introduction of the system. This information can be partly obtained from the DCF demographic data, but only when it is disaggregated at fleet segment.

Table 5.2: Examples of quota distribution between SSF and LSF in the EU

Member state/ Fishery	**% LSF**	**% SSF**
Italy / BFT	63 %	2%
Ireland / demersal	66 % (approx.)	33% (approx.)
Estonia / herring Gulf of Riga	54%	46%
Estonia /herring rest of Baltic	88.65%	11.35 %
Estonia / Baltic salmon	-	100%
Greece / BFT	80% (approx.)	20 % (approx.)

Qualitative data requirements are in narrow connection with the study of community profiles undertaken in TOR 5. Some of the qualitative data needed for studies of impact include geographic information on migration of fish (see case study on BFT in the Canary Islands) or meteorological conditions that SSCF face. SSCF are more sensitive to adverse climate conditions even quota allocation criteria that are meant to improve the access of SSCF might deteriorate it if they do not consider this qualitative information. A case for this is for example the small-scale fishery for herring in the German Baltic. An example of this are the requirements to catch the quota in one year to be awarded quota on the next year. These criteria, which may foster stability in the SSCF, can also become a problem if external conditions prevent the SSCF vessels from fishing in a particular year. SSCF vessels have a more reduced mobility than LSF and are therefore more sensitive to thesis conditions. Examples of these are the impossibility to catch the German herring quota in some Baltic areas due to frost, or cases when the quota is set too low and it is not economically feasible to catch it considering the means of the SSCF, e.g. demersal stocks and the difficulty to catch certain very low quota (low catchability of the fish). Analysis of policy documents, Interviews and Participatory observations, online forums and media articles have proved useful for some of these analysis (Said et al. 2020),

As said before, for the EU case there is not only qualitative and quantitative data requirements, but also the necessity to set up analytical frameworks to extract information from these data.

Limitations of the different SSF definition

In order to select the data to be used (e.g. DCF data) it is important to take into account the mismatch between the official EU definition of small scale fisheries (structural definition, under 12, and passive gear) and the different national definitions of SSF (mostly functional definitions, e.g. see ICCAT below). The national definitions, employed in several quota allocation regimes, would require a higher data definition than that of the DCF (which is based on metier or segment for economic data, other groupings for demographic data). As an example of functional definition of SSF, there is the definition of another management body operation in the EU and beyond,

ICCAT, in its Recommendation 18/02[3] - For the purpose of this recommendation, "small scale coastal vessel" is a catching vessel with at least three of the five following characteristics: a) length overall <12 m; b) the vessel is fishing exclusively inside the territorial waters of the flag CPC c) fishing trips have a duration of less than 24 hours d) the maximum crew number is established at four persons, or e) the vessel is fishing using techniques which are selective and have a reduced environmental impact.

As another example of nation definition, in Belgium there is no real SSF segment. "Coastal fisheries" denote a special statute more than a distinct fleet segment in terms of vessel sizes and gears.

Conclusions

Understanding the allocation criteria and the actual implementation are both important to assess the social impact of the national quota allocation systems in the EU. The answers of MS to the questions in preparation of this EWG whereas they provided the results of the quota allocation (in form of % quota ownership of major segments) and/or the criteria employed to achieve them have proven the availability of this information at national level.

It should be noted that not only the allocation criteria for the distribution and the actual magnitude of quota being allocated but also the options to effectively utilise the quota do affect the actual operational distribution of the quota.. Member States should be aware e that quota criteria generate intended and unintended conditions. For instance, reaching the quota allocated in a given timeframe may be at odds with the weather conditions for SSF. Hence, criteria need to be context-dependent. These external conditions, especially relevant for SSF recommend the elaboration of community profiles (see section on data requirements below) and the delivery of both qualitative data on criteria and quantitative data on quota allocation before and after the allocation of quota, among others.

Gathering information on the details of the quota allocation system is critical. The information provided by the MS has been useful for the initial analysis. A deeper understanding will benefit from disentangling compliance-oriented information (how the quota allocation system complies with art. 17) from design and implementation information (how the system was designed and how it is actually working).

This and similar EWG could set incentives for MS to cooperate in the data submission and boost their participation processes by providing evidence-based information and showing relevant analysis to stakeholders. The group is aware of the value of the information we are asking for but we are also aware that some departments providing the information might be overloaded and/or understaffed; therefore we recommend the optimisation of the process of obtaining the information by coordination from different surveys. The field of assessment of allocation of quotas is relatively young in the EU compared to other geographic areas and this brings difficulties in order to contrast the information received with relevant scientific literature. This lack of literature refers not only to empirical values for before and after, but also to analytical frameworks that could be employed for the analysis of impacts.

In order to establish the development of the quota distribution within and between national fleet segments and the social impact of this quota distribution it is recommended to:

a) In the profile documents, to be drawn up every 3 years, include a specific section on quota allocation, distribution, uptake and allocation criteria

[3] Recommendation by ICCAT establishing a multi-annual management plan for Bluefin Tuna in the Eastern Atlantic and the Mediterranean Sea https://www.iccat.int/Documents/Recs/compendiopdf-e/2018-02-e.pdf

b) In the annual Social Indicators Report include a specific section on this issue, and provide annually quantitative data on quota distribution and a narrative on any developments in the allocation criteria

c) Noting that interpreting the developments are very context specific it is recommended that when drawing up the annual social indicators report a national expert will be made available to provide this context.

d) Quota allocation and quota allocation criteria should be available for the EWG, together (e.g. a Gini ratio for Quota allocation especially between LSF and SSF) with the social indicators from the DCF and the future national/ community profiles.

Quota composition data and flexibility to switch from one stock to another is important to qualify the impact of quota allocation and quota distribution between SSF and LSF. This information is not only from the DCF catch data, but other criteria also affect flexibility that would only be covered in community profiles. This would imply the necessity of indicators on reliance of SSF on different stocks, in the direction of the indicators from the STECF-EWG on Balance of capacity and fishing opportunities.

Regarding demographic data from the DCF, it is clear from the analysis that it would be needed to have it disaggregated by fleet segment in order to assess the impact of quota allocation systems on fleets and communities. The actual level in the regulation is not enough (this disaggregation level is only considered voluntary).

6 IMPROVEMENT IN SOCIAL DATA GATHERING FOR THE NEXT DATA CALL 2021 (TOR 4)

6.1 Introduction

The group agrees that there is a real need for social indicators to assess fisheries from a social perspective. It would be preferable to be asking what we want to see and not trying to retrospectively assess what can be done with the data that is already collected under EU MAP. However, we must be pragmatic and recognize that change will not happen overnight. There are assessments that can be achieved with the data that are already collected and the aim is to build on these datasets and simultaneously try to improve them. We need to be clear in what we can deliver now and what we plan to attain in the future. Along with the demographic data that is collected we must look towards other social data and the 'soft information' surrounding fishing communities which while hard to capture and in a quantitative way are still important to understand and describe fishing communities.

6.2 Refinement of Existing Variables

Rationale

During 2021, MS are obliged to collect social variables for 2020, which means that the data will be officially reported under the Fleet-economic data call in 2021. Since many MS have already planned or in the process of planning their activities for 2021 it is clear that only short-term amendments to variables can be considered during the EWG 20-14.

The focus of this ToR was to assess the recommendations and conclusions from the reports from PGECON 2018 and 2019, the PGECON Workshop on Social variables (2019) in conjunction with the recommendations and findings from the STECF 19-03 report 'Social data in the EU fisheries sector'.

6.2.1 Unpaid Labour

EWG 19-03 felt that although many single operator vessels may feature significant levels of unpaid labour for some MS their automatic classification as unpaid labour was an artificial by product of an economic approach which needed to account for investment levels, profits etc. Additionally, it makes it difficult to calculate the proportion of women in unpaid labour as it inflates the number of men. The social group felt that specific questions on the extent of unpaid labour by family members or others both onboard the vessel and ashore should be included in surveys.

Rationale

The family's dependence on fishing activity concerns mainly family fishing enterprises and more particularly SSF where the participation of the family is essential for the survival of the enterprise. Family participation does not always give rise to remuneration. The main help comes from spouses/partners who perform tasks according to the needs of the company. Women's contribution ranges from repairing fishing nets, bait longlines, to administrative work, direct sales of fish, small processing activities and if it is needed seasonal or occasional participation in fish harvesting on board.

In countries where the Council Directive 86/613/EEC replaced by the directive 2010/41/EU are implemented Member states can directly report on the number of women who benefit of the assisting/collaborative status. In other MS where such status is not yet implemented other means should be used to access this information.

There was an in-depth discussion on the definitions and data reporting on unpaid labour. The EWG is aware and cognisant of the work that has been done in this area by PGECON. However, there needs to be more clarity around the definitions of unpaid labour variables to make them

consistent and clear to MS so that a harmonized approach can be used in data collection and reporting.

In the EU MAP Guidance document, the following details are given for the unpaid labour variables:

- Value of unpaid labour

  Definition: Imputed value of unpaid labour. Unpaid labour = Work that produces goods or services but is unremunerated (OECD Glossary of statistical terms). People working only on shore should be included only if their work is directly related to fishing activity.

  PGECON Advice: The estimation of the imputed value of unpaid labour was discussed during the WS on calculating capital value using PIM and definition of DCF variables (Napoli, 13 -17 June 2011). Taking into account difficulties encountered by MS in estimating this variable (recognized by SGECA 10-03 and STECF EWG 11-03), a specific ToR was added to clarify definitions and best practices for MS. The group agreed that the variable "imputed value of unpaid labour" should include the labour costs of **all persons** delivering unpaid labour both during pre-harvesting, harvesting and post-harvesting activities. On the basis of the results of this workshop and comparing different experiences by MS (as reported in NPs and ARs), it was suggested that the Value of unpaid labour can be estimated using the FTE method (method no.2).

- Unpaid Labour (Number)

  Definition: Number of **engaged crew** that have not received compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind.

EWG 20-14 concluded that these definitions are not comparable. Unpaid labour value includes all persons delivering unpaid labour while the definition for total unpaid number only refers to engaged crew, which is mostly referring to activities happening onboard the vessel. These definitions should be harmonised and wording to the effect that this should refer to the total number, or value, of 'individuals, crew and/or family members engaged in an unpaid capacity' or word to that effect.

Additionally, in the new EU MAP data call the number of unpaid labour was requested separate to the total engaged crew. PGECON had advised to change the term 'Engaged crew' to 'Paid Labour' (and update definition to exclude unpaid labour). This needs to be discussed and agreed so all MS are using the same definition and in case there is a consensus about the change in the variable, all MS might need to resubmit the variable for previous years, excluding the number of unpaid labour.

Recommendations

- Review and amend the definitions of unpaid labour numbers and value of unpaid labour.
- Update definition of 'Engaged Crew' on EU MAP Guidance document and remind MS of the definition of 'engaged crew' which should not include unpaid labour and revisit changing the term to 'Paid Labour'.
- Reminder that unpaid labour should include unpaid labour at shore including pre-harvesting preparations and post-harvesting activities (directly related to fishing operations).
- Recommend the addition of a new indicator which will combine transversal data from the fleet economic data call and social data. A measure of unpaid labour as a ratio to effort would be useful to assess how much unpaid labour occurs by fishing activity, fishing segment or comparisons by MS. An assumption would be that SSF have a higher level of unpaid level per effort.

- Recommend a future discussion on if there is a need to see the unpaid labour broken down by work done at sea or onshore and by gender.
- Indicator: Number of women having the assisting/collaborative status by fleet (SSF, LSF, DWF).

6.2.2 Gender

Rationale

There is a significant issue with the visibility of the roles of women in European fisheries industry data. This is based on the fact that European fisheries policies and research, until recently, focused mainly on resource management, vessel modernization and the market. Moreover, women who are not actively engaged on board fishing vessels were less visible because they were not officially associated and included in the statistics related to fishing vessel operations, which are normatively considered as fishing activities. Moreover, the activity occurring near the shore including shellfish and seaweed gathering does not form part of DCF. The same applies for land-based work related to the fisheries value chain including selling fish, mending nets and baiting longlines. Many assisting spouses are also involved in the administrative part of the fishing enterprise, which are not always recognized in the data collection. Further data blind spots happen with regards to the diversification of activities conducted by women in fisheries such as fishing tourism, or other income-supporting activities which women conduct as part of the family enterprise.

An important tool that could be used to widen the angle of how gender and the value chain could be better recognized is the FAO Voluntary Guidelines for SSF, as it opens up on the fisheries value chain in terms of pre-harvesting and post-harvesting activities. Recognizing these activities as part of the national statistics could engender better visibility of women, as well as provide the actual facts of how the fishing fleet operates. With the European Council Directive 86/613/EEC replaced by the directive 2010/41/EU), the recognition of assisting spouses or partners' contribution has gained legal protection, especially for those whose role is not remunerated. It offers women some social benefits such as a retired pension, maternity leave, vocational training and the possibility to be part of male fishing organisations if the husband/ partners doesn't want to use his right.

Recommendations

For this reason, we are suggesting the following indicators for gender

1. Paid employment in harvesting disaggregated by gender
2. The number of women operating on board of fishing vessels as active skippers or crew.
3. In order to understand which groups of women are included in the number given by Member States we should clarify which roles they carry out:
   - Women owners of vessels operating on board as skipper:
   - Women owners or co-owners of vessels without any activity on board,
   - Women acting as crew members.

6.2.3 Education

Rationale

It is important to conduct studies on the educational level, vocational training and lifelong learning opportunities, for all crew members from vessel owners, skippers and crew members. These elements would be necessary to understand potential implications that could be encountered in the implementation of new fisheries management measures. This would also identify the risk that might impact the recruitment of young fishers due to specific qualification requirements. It is therefore important to identify, in advance, the gaps or needs of this population, both in terms of education and vocational training. The aim is to enable this

population of fishers to enter the labour market or to create other related or non-related activities to the fisheries sector. Access to training therefore does not only concern the practice of fishing professions, but also activities beyond fisheries, including reskilling and upskilling.

Background

PGECON advised to collect and report data on education in four categories (Low, Medium, High, unknown). EWG 19-03 recommended that another category be added to this aggregation as 'responses to the education question [in the data call] point towards a necessity to have a clearer understanding of the level and role of fisheries technical qualification'. Therefore, a new question could be included on this topic following additional discussions to agree on some common categories.

Recommendation

The EWG considered the need to add more categories to the level of education reporting. The questions and level of reporting for education level should remain and the group suggests that an additional variable is added to capture vocational training.

6.2.4 Employment Status

Rationale

The EWG 19-04 felt that there was considerable scope to refine and add value to this variable. The PGECON WS recommends at least separation between the following two categories:

• owner / employer (vessel owner involved in vessel activity/operation), and

• employee (all engaged workers on-board, excluding owners)

The EUROSTAT Labour Force Survey uses the following categories:

- Self-employed with employees
- Self-employed without employees
- Employee
- Family worker.

As detailed in EWG 19-03 the difficulty with both the PGECON and Eurostat categorisations is that they don't account for all of the most common categories of employment status found in fisheries and does not allow for meaningful analysis. This EWG recognised that the

An alternative categorisation could be:

- Vessel owner and skipper
- Vessel owner (not fishing)
- Unpaid Vessel Owner/Skippers (Croatian Case)
- Share fisher skipper
- Share fisher crew
- Employee under Fixed Contract with vessel
- Employee under Fixed Contract with agency
- Family member providing unpaid labour aboard vessel
- Family member providing unpaid labour ashore
- Community member (any other persons not family) providing unpaid labour aboard vessel
- Community member (any other persons not family) providing unpaid labour ashore

Part of the improvement of our social understanding of the EU fleet, is to have a better understanding of employment status as an aspect of the structure of the EU labor force.

Employment status of fishers will inform us on the breakdown of 'share-fishers' and 'self-employed' fishers. It would be useful to improve this indicator further by looking at the following aspects:

Payment structures differ by MSs with some considering share fishermen as self-employed and others not. This needs to be considered. For example crew share in Dutch fishers fish in a partnership agreement. That means that instead of having a fixed salary they share in the profit and the risk (no or low catch) of fishing. They work under contracts 'Partnership agreement for share fishermen' and are linked to the Social Fund for the Share-Fishery. Depending on the role of the crew-member, the share of the catch will be different:

- captain
- chief mate
- engineer
- second mate
- sailor
- trainee

Also the experience of the fisher can differ, resulting in a larger share when a fisher has more experience. Generally crew get 42% of the grossing minus costs. With six men on the vessel, each get 7% of the remaining revenue. In an example of €40,000 grossing – €17,500 costs = €22,500 remaining revenue. Each crew member gets €1,575 Euro for a week (minus €100 Euro for the social fund = €1,475). The fishers still have to pay taxes (and save for their pension).

Other fishers, common in many MS, is the situation where you have employed crew, i.e. some fishers (crew) are not working in a partnership agreement but work as employees with a fixed salary.

In the Dutch fisheries the pelagic fishers work as employees and have negotiated a collective labour agreement. The fishers get a share of the catch, but there is a basic salary (guarantee). They receive a net salary (pension and tax are subtracted before).

In Belgium it is likely that the vast majority of fishers will be registered as 'employee'. In 2003, a law on employment ended the "No catch, no pay" era, assuring income security for each trip through a set minimum wage per day at sea. This is unique in Europe. Compared to other member states, Belgian fishers have a relatively high income as they receive a fixed percentage of the gross value of landings that is usually much higher than the guaranteed minimum wage. So, a larger catch usually leads to a higher income.

In the light of the above consideration, explore the link between self-employment and unpaid, e.g. is work of the vessel owner (hence self-employed) unpaid work? Need to align with international standards, as the ESA account system definition where it is set that "Self-employed persons are defined as persons who are the sole owners, or joint owners, of the unincorporated enterprises in which they work, excluding those unincorporated enterprises that are classified as quasi-corporations. Self-employed persons are classified here if they are not also in a paid employment which constitutes their principal activity: in that latter case they are classified under employees. Self-employed persons also include the following categories: unpaid family workers, outworkers and workers engaged in production undertaken entirely for their own final consumption or own capital formation, either individually or collectively.

6.2.5 Nationality

Data regarding nationality particularly in relation to Non-EU/EEA crew members employed in the SSF and LSF is important to collect as it is showing the difficulties experienced in recruiting national or EU crew in some fleet (example purse seiners, see 19-03). Another good example is the Distant Water Fleet (DWF), that employs the largest number (31%) of Non EU/ EEA workers. The DWF fleet is employing the highest number of Non-EU/ EEA employment and it could be interesting to see which geographical areas these vessels are operating. This link should be easy to calculate from the AER data. The geographical detail of these data is also very relevant to analyse the trends in outermost regions.

It is also important to analyse the geographical areas these vessels are operating in. The geographical detail of these data is relevant in order to analyse the trends in outermost regions.

Recommendation

The data relating to nationality and the presence of Non-EU/EEA indicates that further research may be needed to understand the dynamic of these fleets and to help explain the reasons and predict future trends. Recommend that MS try to provide more detailed data and provide complementary information to allow an understanding of the data.

6.2.6 Age Distribution

Rationale

The age of fishers (men and women) whether they are the owners or crew is an important indicator particularly in case of EU implementation of fisheries management, such as recovery plans or other restrictive measures linked to the availability of resources. This indicator can guide the deployment of special social policies and actions to undertake according to the age of each fisher impacted by these measures to enhance their resilience. Such measures may include early retirement, and or training to find other jobs. By having quantitative data of the age of fishers, it will be easier to identify the needs across the generations. Young people can be re-orientated to other maritime activities (through vocational training) and early retirement plans can be offered to elderly fishers. Moreover, the age is an important indicator that provides a forecast of the average age of the fisher population and indicates potential trajectories for the Member States to recuperate ageing populations. This could be linked to promotion of the fishing job to younger generations, such as young fisher schemes.

On the other hand, the average age of fishers (men and women) is an indicator of the attractiveness of the sector. In the case of a majority of old fishers then states should promote the job to the young generation (see Figure 6.1).

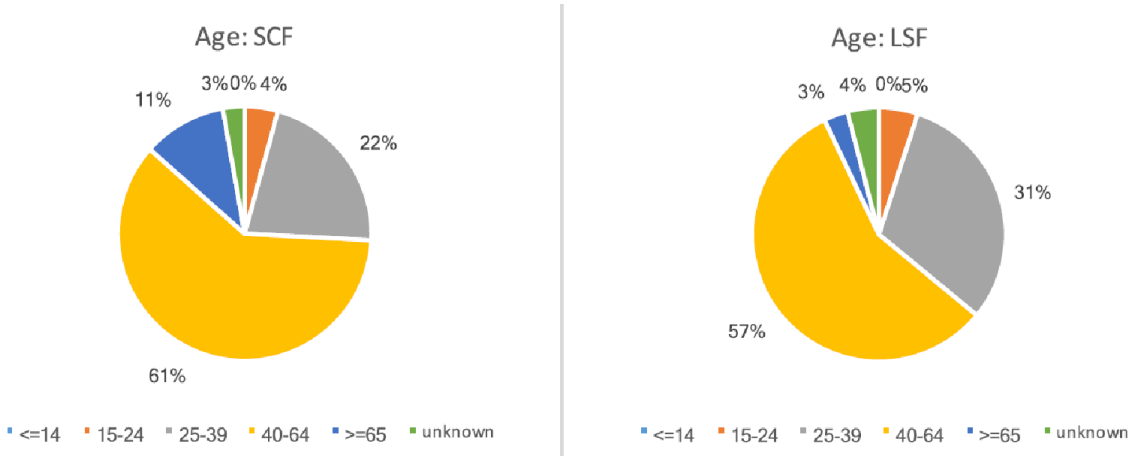


Figure 6.1: Age distribution for SCF and LSF for 2017 (EWG 19-03)

Background

Recommendation 5 from the PGECON WS on Social Variables was that 'The group recommended to report age by the following age groups: <15, 15-24, 25-39, 40-64. >64, Unknown, and [blank].' Following this recommendation, MS collected and reported the data in the requested age categories: <=14, 15-24, 25-39, 40-64, >=65 and unknown.

EWG 19-03 noted that the 40-64 age class made up the largest proportion (58%) and agreed that further disaggregation of this age class is needed. PGECON 2019 agreed that the age class chosen are useless to identify social phenomena like social mobility or ageing and that smaller classes (10 year) are needed.

Recommendation

EWG 20-14 proposes the following scenarios for the disaggregation of the age classes to be discussed in future PGECON meetings.

1. <=14, 15-24, 25-32, 33-39, 40-49, 50-57, 58-64, >=65 and unknown.

   Pros: The data collected in 2020 and 2023 will be **comparable** with the 2017.

   The data will be comparable with the data collected by EUROSTAT.

2. <=14, 15-24, 25-39, 40-49, 50-57, 58-64, >=65 and unknown.

   Pros: The data collected in 2020 and 2023 will be **comparable** with the 2017.

   The recommendation from STECF 19-03 will be followed.

   The data will be comparable with the data collected by EUROSTAT.

   Cons: The years going into each age class will be different: 15-24 -10; 25-39 -15; 40-49 -10; 50-57 -8; 58-64 -7;

   The age class 25-39 is still very big.

3. <=14, 15-24, 25-32, 33-39; 40-49, 50-57, 58-64, >=65 and unknown.

   Pros: The data collected in 2020 and 2023 will be **comparable** with the 2017.

   The data will be comparable with the data collected by EUROSTAT.

   Cons: The years going into each age class will be different: 15-24 -10; 25-31 -7; 32-39 -8; 40-49 -10; 50-57 -8; 58-64 -7;

4. <=14, 15-24, 25-39, 40-49, 50-59, 60-64, >=65 and unknown.

   Pros: The recommendation from 2019 PGECON will be followed.

   The data will be comparable with the data collected by EUROSTAT.

   Cons: The data collected in 2020 and 2023 will be **partly** comparable with the 2017.

5. <=14, 15-24, 25-34, 35-44, 45-54, 55-64, >=65 and unknown

   Pros: The recommendation from 2019 PGECON will be followed.

   Cons: The data collected in 2020 and 2023 will be **partly** comparable with the 2017.

   The data will NOT be comparable with the data collected by EUROSTAT.

6. <=14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64 >=65 and unknown

   Pros: Detailed analysis about the age structure of the fishers can be done.

   The data will be comparable with the data collected by EUROSTAT.

   Cons: The data collected in 2020 and 2023 will **NOT** be comparable with the 2017.

The disaggregation of the age classes at such a low level might lead to administrative problems in the countries in which the social variables are under the regular data collection of economic variables. It might be a problem to collect so disaggregated data for the aquaculture and the processing industry.

- The age classes used by EUROSTAT are: 0-14, 15-24, 25-49, 50-64, 65-79, 80 and more.

However, for other MS, who collect data at a fine resolution, aggregating age data into categories is not an onerous task.

6.2.7 Combination of social and economic data/indicators/

EWG 19-03 discussed possibilities of maximising the utility of the variables already collected by combining them together and with economic variable data also to create indices. Initial candidates discussed were:

- An Aging index. This would be simply done by expressing the age profile as the number of fishers over 65 divided by the number under 40 (>65 <40). Higher values would indicate greater aging issues within the population.
- Some social indicators could also be easily combined with economic indicators like: i) profit, ii) income, iii) total costs, iv) profit margin, v) imputed value of unpaid labour etc. In this way, it could be interesting to compare some pure economic indicators in groups that are formed by social variables e.g. by grouping vessels using the aging index of the crew: e.g. vessels with >0.5 and vessels with <0.5. One added suggestion from EWG 20-14 is the use of effort with unpaid labour to produce an unpaid labour per unit effort.
- In the same way, we could apply indices that can be extracted using other social variables like education level, employment status etc.

A problem that might be foreseen is that the economic data is reported at segment level, while the social data is collected at fishing activity level (SSF, LSF, DWF). However, there are a number of variables from the economic data call that might, on their own, or in combination with other variables, provide more insight and the economic data can be presented in the fishing activity levels.

6.2.8 Question of New Variables

We might want to expand on these, with rationales, just some of the ideas we came up with. This text can maybe be used in conjunction with ToR 5.

There are also further levels of refinement which could be sought here although it is likely that these may only be practically available for pilot studies due to the workload involved. Again, these require further discussion. Some areas that need to be discussed by the Social Variables PGECON Sub-Group may include:

6.2.9 Retirement age and Pensions

A qualitative description should be recommended. When the fishers retire where do they get a pension from? MS have different systems in some MS the fishermen are paying their social taxes in special funds for people working at sea, while in the other countries the pensions and the taxes paid by the employees are going in the same fund there may be state pensions, funds for unemployed people, special fishery funds for retirement, social systems and private pensions. There are also differences in how women access retirement. In Italy women can register as fishers/vessel owners to get pension but they may not fish. In France they can say that they are self-employed and they can pay into a specific pension scheme for retirement.

6.2.10 Payment structures (wage, share)

In line with the conclusions of EWG 19-03, the categories for employment should be extended to include the category 'share fishers'. Due to the importance of the share fishing arrangement and the fact that it is fundamentally different to the Eurostat categories it is considered important to collect data on this. Also trends or changes to the ratios of share fishers to contract fishers would

be very important as they may indicate deeper social changes. An alternative categorisation for this variable is described in full in the report.

6.2.11 Vessel ownership (family businesses, companies, external MS ownership)

Ownership of fishing fleets needs to be further investigated such that more information on who owns what and how this is reflected through the data. This would help shed more light on what is happening with regards to accumulation of fishing vessels by different owners, in spite of non-transferability in some cases. Ownership of fishing vessels as well as of fishing rights is an important component that needs to be better assessed in terms of ownership of GT and KW, number of vessels, as well as ownership of quota, and or ITQs. The ownership also plays an important role in determining access principles, as many are able to enter the market due to a capital investment, while those from the younger generation are outcompeted due to high price tags attached to the fishing rights.

Relevance of shared-ownership. Based on the provisions of a note in Appendix VI of Commission Decision 2010/93 / EU "shared ownership (involving more than one person) should be regarded as one unit".

In some countries (e.g. Italy) shared ownership or co-ownership is common in the small-scale fisheries among spouses or relatives: it is a practice that responds to the need for greater distribution of income for individuals belonging to the same family (source: direct interviews with fishermen under the survey for social data collection).

6.2.12 New entrants to the industry (vessels and new crew).

If our fishing population is ageing, then there may be a situation of intergenerational deficit which could be a threat to its sustainability. It is hard to decipher from registers if new vessels added to the register are 'new entrants' or just renewed investments from established fishermen. This is a complicated case and more research is needed to decide how these data could be captured. Community Profiles (as discussed in TOR 5) could help in identifying ownership criteria that could be further studied.

6.2.13 Number of Enterprises

The group noticed the lack of available information on how the variable "Number of enterprises" is calculated in each country. During the discussion different cases were mentioned and new questions were raised, which might be investigated during a workshop under PGECON or another relevant group.

The suggested topics that needs further discussion include:

- Is foreign ownership allowed in the country?
- In case the foreign ownership is allowed, are there any restrictions /EU national and 3rd countries?
- Is there available information on how many vessels are owned by parent companies?
- Comparison between the licensing systems in each MS.
- Ratio between the vessels owned by family companies and all the vessels.
- Is it possible one person can be registered as owner of a vessel A on one hand and as owner of a legal entity owning vessel B on the other hand?
- Are there restrictions on the total allowed quota that might be allocated to one company?

6.2.14 Other Income

Under the current EU MAP 'Other Income' is described as 'Totals invoiced during the reference period, corresponding to vessel activities other than fishing supplied to third parties. Insurance payment for damage/loss of gear/vessel should be included'. The EWG considered if collected other income not related to vessel activities would be useful to describe the dependency of families and business on other incomes streams outside of vessel operations.

6.2.15 Data Definitions

- When looking at fishing communities we are missing out on seafood gatherers due to the definition of 'fishing' which excludes operations not on vessels. This skews the data especially when looking at gender statistics.
- The definition of SSF needs to be addressed, the definition with introduced gear usage excludes many small vessels from the SSF data sets.

6.2.16 PGECON, EWGs Mechanism for Change

The experts in EWG 20-14 were unanimous that the continuation of the work done so far by expert groups is essential for the improvement of the data collected and the harmonization of the methodologies in the different MS. This can be continued through the social variable data subgroup under PGECON or in another appropriate form (if this is more appropriate). This group should include social scientists, economists and data collectors. This group should meet every year, despite the fact that the next social data collection of social variables is planned for 2021 (covering the data from 2020) and will be officially reported in 2022.

The changes in the list of variables that may be collected in future should be decided after their purpose is clear. The optimal way is if all the proposed variables go through PGECON subgroups, or another designated group, and if it is clearly communicated to the MS as to why these data are important and how it should be collected. No room for interpretations should be left.

Possible terms of reference for the social variable group could include:

- Further development of the methodologies for the collection and interpretation of the current mandatory variables that are collected under DCF.
- Homogenization of the data reporting methodologies for all variables at MS level, if applicable.
- Review of the new indicators proposed by different working groups and writing definitions for the ones relevant for future data collection.
- Proposals how each of the new variables can be collected not only by the countries that have special social researches, but also the ones that are including the social data collection in their annual economic data collection.
- Description of self-employee in each country;
- Availability of data in each MS.

Over the last couple of years PGECON allocated a lot of effort assisting the development of definitions for the social indicators of the EU MAP. The SECFISH project used the same list of agreed definitions when analysing EU MAP variables and proposed a technique of how to estimate from the sample to the population for social indicators, however more guidance and coordination might be needed in the future based on the results of the first data submission. Any future meeting should also pay attention to the final SecFish work package on social data. This work focused on social data—end users, possible applications data use and linking societal indicators available from other data sources (e.g. EUROSTAT) with the fisheries, aquaculture and processing sectors. The research also included investigating relevant international data sources (e.g., EUROSTAT, OECD, FAO) to identify available data and useful variables with the end-goal of evaluating the feasibility of extracting data already available from these international data sources.

6.2.17 Conclusions

In conclusion the EWG agreed that we need to be pragmatic in relation to what we can achieve in the short term and instead plan for the future of social data collection and analysis.

The group considered and commented on the recommendations from EWG 19-03 and expanded on possible areas to discuss. The result of this is that there are two avenues that need to be addressed. The first are variables that need to be clarified before MS begins to collect and report the next set of social variables. Specifically, this relates to age categories, unpaid labour and gender (in relation to unpaid labour).

The group recommends that discussions of new variables or significant changes to existing variable definitions need to be discussed and agreed at the social variable sub-group of PGECON or another suitable group. This group must consist of social scientists as well as the data collectors and/or end users as PGECON has consistently commented that the required expertise does not exist in their group to deal with these issues.

7 POSSIBILITIES AND METHODOLOGIES FOR NATIONAL AND COMMUNITY PROFILES (TOR 5)

- "STECF plenary 19-02 in reviewing EWG 19-03 concluded that in order to be able to properly analyse and interpret social data collected the data should be put in context through the provision of national and/or local fisheries sector profiles. The EWG should propose methodologies for the expansion of the social analysis to include a) national profiles which may include information on fisheries and quota management regimes, employment status of fishers, summaries of existing community profiles etc. and b) specific fishing community social profiles where possible."

This TOR arose from a finding during EWG 19-03 that it was difficult to interpret some of the data without having at least a national level context within which to place it. The TOR is split into 2 distinct sections: the first deals with the compiling of national profiles which could provide a national level overview of some fundamental aspects of the fishing industry; the second section deals with the more detailed process of creating community profiles, where a detailed picture of the local social and economic impacts of policy making would be built up.

7.1 Draft Template for a national fisheries sector profile

The National Fisheries Sector Profile provides a brief outline of the structure, economics, social and cultural role of fisheries in the addressed MS society. It contextualises fisheries using already existing quantitative data and further qualitative information from MS fisheries' experts. Base data about the economics, the living and working in a MS are combined with the description of social (and economic) data from fisheries. In doing so, National Fisheries Sector Profiles are the starting point to use the potentials of social data, where the real value often only revealed in a relevant comparison (STECF-19-03, p.205). An evaluation of fishers' age, gender, education and income can only be expedient considering the overall national's performance or even further in comparison with a related sector (e.g. agriculture) (STECF-19-03, p.193). Such comparisons of social variables enable scientists to identify imbalances in society and point out the political question of well-being and living conditions.

Moreover and due to the fact, that the attendance at EWG is limited and not every MS is presented by a national expert, National Fisheries Sector Profiles provide essential background information to experts, who are asked to write a national chapter about a MS, of which they do not have the specialist knowledge (STECF-19-03, p.204).

The EWG propose that to some extent National Fisheries Sector Profiles lay down the core structure of future STECF reports on social variables in fisheries (and possibly at the same time for aquaculture). The analysing of social variables should not be given as additional work to already existing EWGs, which work on the Annual Economic Report on the EU Fishing Fleet (AER) or biannually on EU aquaculture. Further, the AER experts, which are mainly economists and other data experts mind have a gap of knowledge regarding the handling and interpretation of social variables. In consequence, EWG recommends to build up National Fisheries Sector Profiles against the background of a next STECF EWG meeting on social data in the EU fisheries sector in line with the data call (expectedly 2022).

The following section presents a manual on how to write a National Fisheries Profile. The manual includes a minimum, obligatory standard of data, which have to be given in the profile and impulses of how to extend the profile with further valuable, but voluntary information.

TABLE 7.1 below provides a comprehensive list of descriptors, which should be utilised for the National Fisheries Sector Profile. The large majority of the requested information is easily available at online sources such as Eurostat, DCF, Eurofound.

Table 7.1: Proposed table of contents, descriptors and sources for drafting national fisheries sector profile

SECTION	SUBSECTION	DESCRIPTION OF MAIN CONTENT	MAIN DESCRIPTORS NEEDED (INDICATORS) AND TYPE OF VISUALISATION	MAIN SOURCES FOR INDICATORS	IS THE CONTENT OF THE ANALYSIS AVAILABLE IN OTHER REPORTS? IF YES, WHERE?
1. Overview	*Overview*	Factsheets	Main indicators included under sub-section (look at the example in the text)	Eurostat https://ec.europa.eu/eurostat/data/database DCF https://stecf.jrc.ec.europa.eu/dd/fleet FAO http://www.fao.org/fishery/facp/ITA/en	No analysis needed here. Only factsheet.
2. Description of the national fishery sector (present time)	*General description of the National society*	Role of the Fishery sector on the overall National economy? How the fishery sector contributes to the national economy?	Total employment Gross Domestic Product (GDP) Gross Value Added (GVA) in the fishery sector Employment in the fishery sector % of employment/VA of fishery on the Blue Economy sector	Eurostat https://ec.europa.eu/eurostat/data/database DCF https://stecf.jrc.ec.europa.eu/dd/fleet	Country profile on the EU website (https://europa.eu/european-union/about-eu/countries_en) National chapter under the Annual Economic Report for the EU Fleet (https://stecf.jrc.ec.europa.eu/reports/economic) Fishery country profile (http://www.fao.org/fishery/countryprofiles/search/en) Blue Economy Report (https://blueindicators.ec.europa.eu/sites/default/files/2019_blue_economy_report_5.pdf)
	Main fisheries categories	(e.g., industrial for meal, pelagic, demersal)	Turnover and employment of the main fisheries sectors	DCF EUMOFA (https://www.eumofa.eu/data)	National chapter under the STECF Annual Economic Report for the EU Fleet (https://stecf.jrc.ec.europa.eu/reports/economic) EUMOFA Country profiles (https://www.eumofa.eu/the-eu-market#countryProfiles) EUMOFA EU fish market analysis (https://www.eumofa.eu/it/market-analysis)
	Geographic areas	(areas at sea fished; # of ports and main landing ports)	Lenght of coastline, number of ports, areas fished	Community Fleet Register (https://webgate.ec.europa.eu/fleet-europa/search_en) Emodnet database (https://emodnet.eu/en) European Atlas of the Seas (https://ec.europa.eu/maritimeaffairs/atlas) Marine Regions (https://www.marineregions.org/about.php)	Fishery country profile (http://www.fao.org/fishery/countryprofiles/search/en)
	Fleet descriptions	(LSF, SSF, pelagic, etc)	By fleet: number of vessels, landings of main species, employment and turnover	DCF: https://stecf.jrc.ec.europa.eu/dd/fleet	National chapter under the STECF Annual Economic Report for the EU Fleet (https://stecf.jrc.ec.europa.eu/reports/economic)

SECTION	SUBSECTION	DESCRIPTION OF MAIN CONTENT	MAIN DESCRIPTORS NEEDED (INDICATORS) AND TYPE OF VISUALISATION	MAIN SOURCES FOR INDICATORS	IS THE CONTENT OF THE ANALYSIS AVAILABLE IN OTHER REPORTS? IF YES, WHERE?
	Market and trade	Provide quantitative information on, e.g. per capita fish consumption; importance of export/processing); others (e.g., gear developments such as the Trawl centre in Northern DK).	Fish per capita consumption Import-export Self-sufficiency indicators (dependency from import) Turnover of fish processing Value chain	EUROSTAT https://ec.europa.eu/eurostat/data/database EUMOFA https://www.eumofa.eu/data DCF https://stecf.jrc.ec.europa.eu/dd/proind	National chapter under the STECF Fish processing report EUMOFA Country profiles (https://www.eumofa.eu/the-eu-market#countryProfiles) EUMOFA EU fish market analysis (https://www.eumofa.eu/it/market-analysis
	Management & Governance	(e.g., responsible national authorities, PO-or lack thereof- for fleet sectors, Regional Fishery body membership, etc.)	Different level of management, Regional fishery Bodies' membership, Number of POs, FLAGs	Emodnet database (https://emodnet.eu/en) European Atlas of the Seas (https://ec.europa.eu/maritimeaffairs/atlas) https://ec.europa.eu/fisheries/cfp/market/producer_organisations_en	National chapter under the Annual Economic Report for the EU Fleet (https://stecf.jrc.ec.europa.eu/reports/economic)
3. FOCUS on social and economic aspects of Fisheries	*Context - Fisheries in the national societal context*	Provide qualitative description of the societal/cultural history in fisheries (including fisheries related events such as festivals, fisheries/coastal community tourism); micro-cultural groupings; demographics. Provide qualitative information on the importance of fisheries as source of income for households Provide qualitative information on the role of fisheries in relation to other sectors (e.g. dependance from tourism/Ho.Re.Ca. sector)	Persons/households living on income from fisheries, Fish consumption outside home, Importance of Seafood restaurants, Festival/events linked to the fishery sector		
	Employment and labour aspects	Provide quantitative data on the breakdown by age, nationality, gender of employment in fisheries; including unpaid labour and shore crew. Provide qualitative data on the remuneration scheme, if different for the fisheries' sectors	Socio-demographics for the fishery sectors	DCF Social data collection	STECF reports on the Social indicators of EU fleet (https://stecf.jrc.ec.europa.eu/reports/economic)
	Social Security systems	Provide qualitative data on the fishery's retirement scheme vs. national economy's one, working conditions, accident at sea, occupational diseases	Pensionable age, real retirement age, accident at sea, health diseases in the fishery sector	https://www.missoc.org/missoc-database/comparative-tables/	Country profile (https://www.eurofound.europa.eu/country)
	Education and Training	Educational level of fishermen, Accessibility to vocational training	Employment in fisheries by educational attainment	DCF Social data collection	STECF reports on the Social indicators of EU fleet (https://stecf.jrc.ec.europa.eu/reports/economic)
	Institutional and legal elements; Representativeness	Provide qualitative information on fishery representativeness: are fishermen really represent on stakeholders' consultation?	Number of trade unions and employer organisations in the fishery sector		Representativeness of the European social partner organisations: Sea fisheries sector (https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef20010en.pdf)

SECTION	SUBSECTION	DESCRIPTION OF MAIN CONTENT	MAIN DESCRIPTORS NEEDED (INDICATORS) AND TYPE OF VISUALISATION	MAIN SOURCES FOR INDICATORS	IS THE CONTENT OF THE ANALYSIS AVAILABLE IN OTHER REPORTS? IF YES, WHERE?
	Access to fisheries	Is fishery open access? Which type of restrictions are in place? Is the fishery rights-based managed? Is the allocation of rights fair enough?	TACs, quota, allocation criteria	https://ec.europa.eu/fisheries/cfp/fishing_rules/tacs_en	Fisheries overviews by regions (https://www.ices.dk/advice/advisory-process/Pages/fisheries-overviews.aspx) National chapter under the Annual Economic Report for the EU Fleet (https://stecf.jrc.ec.europa.eu/reports/economic) Who gets to fish? The allocation of fishing opportunities in EU Member States (https://neweconomics.org/uploads/files/Carpenter-Kleinjans-Who-gets-to-fish-16.03.pdf)
4.Trends, Issues and Development	*Summary of the overall trends in the fisheries*	Provide a description of, e.g. trends in landing sites/ports development, certification, technological developments, etc…			
	Constraints	Provide a description of, e.g., sector restructuring, quota allocation, loss of support industries, conflicts at sea (within fisheries and without); COVID-19, etc. Including societal trends having an impact on fisheries (e.g. gentrification on-land, people living outside			
	Opportunities	Provide a description of, e.g., related industry such as processing, seaweeds; maritime-based tourism; governmental policies			
5. References	References	Provide references for quantitative data used but not publicly available Provide references for the qualitative information provided			

7.2 Manual on National Fisheries Sector Profile

The national fisheries profile briefly describes the fisheries sector of a MS. It provides general demographic, social, cultural and economic information. The profile contextualises MS fisheries and helps to interpret the overall societal situation of one countries fisheries sector.

Information provided by MS fisheries experts in the sector profile includes two kinds of information: i) mandatory and ii) voluntary data. There is a standard of mandatory data for each MS profile, which have to be provided from available sources such as Eurostat, DCF or EUMOFA.

Available descriptors (indicators) and sources for the following sections of the national fisheries sector profile can be found in Table 7.1.

Voluntary information goes beyond mandatory data available at Eurostat, DCF or EUMOFA. It bases on national expert knowledge and delivers additional background information (also qualitative data).

Although touching many aspects of fisheries the national fisheries sector profile remains an overlook and should not extend 5 pages.

National Fisheries Sector Profile

1. Factsheet

The factsheet presents an overview about the national's commercial fisheries sector at a glance, which is mainly filled out by information gained from the Annual Economic Report (AER) on the EU Fisheries Fleet.

Germany's marine Fisheries Sector 2019 (as example)

Main operating seas	NEA, North Sea, Baltic
Management	TAC, quota linked to vessels
Fleet segments	SSCF + LSF + DWF
Fleet capacity	1 349 vessels
Fishers	1 654 (crew offshore)
Production	231 kt
Value of landings	EUR 218 Mill
Particularities	Brown shrimp fishery; SSF part-time fishers
National's seafood consumption	13.9 kg per capita

2. Description of National Fisheries Sector

This section includes:

- *General description of national society*
- *Main fisheries categories*
- *Geographic areas*
- *Fleet descriptions*

- *Market and trade*
- *Management & Governance*

Please, describe here the characteristics of your nation and of fisheries in general. The description should focus on the present (historical development can be placed under section 4 "Trends, Issues and Development"). The description of the country includes information about geographic (e.g. area, coastline), seafood market and society. The later refers to demographic information such as population, mean age, gender or education levels; and economic indicators such as mean income, nation's value added (VA), Gross Domestic Product (GDP). Information about the seafood market and trade includes trade balances, values (e.g. GVA), and seafood consumption.

The introduction of the country should be followed by a brief fleet description (e.g. pelagic, demersal, fleet segments, gears and techniques), areas of fishing activities, target species, management and governance (e.g. TAC, ITQs, closed areas).

3. Social, Cultural and Economic Aspects of Fisheries

This is the main section of the National Fisheries Sector Profile. The following themes should be covered:

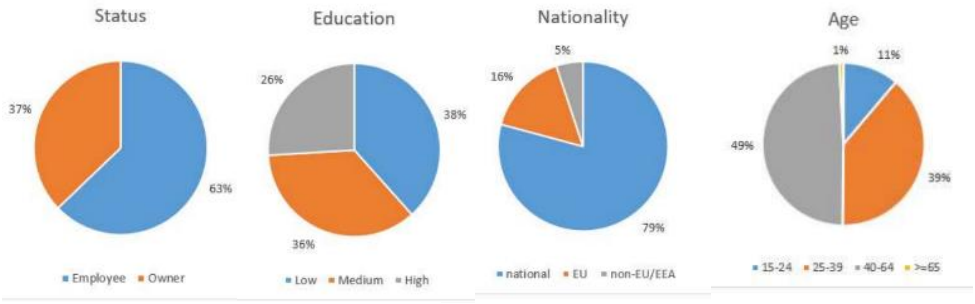
- *Fisheries in the national societal context (incl. national economy)*
- *Institutional and legal elements (incl. representativeness)*
- *Employment and labour aspects*
- *Social security systems*
- *Education and trainings*

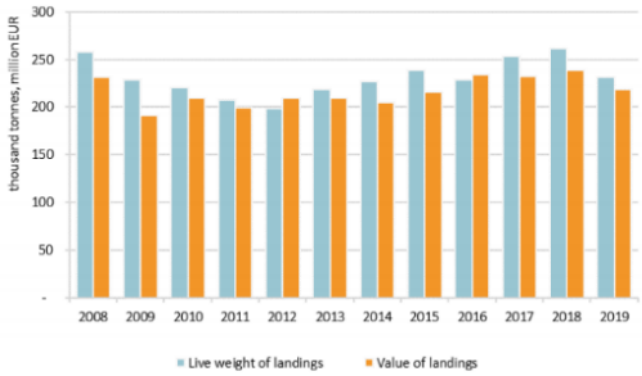
This section takes a deeper look at the fisheries sector's role in society. It describes the salient social, institutional and legal elements for each MS; the access to fishing rights, fishers employment (including unpaid labour and the social security system), education, training and income situation, questions of ownership (as additional information if available) and describes the dependencies of the fisheries from other sectors. Some of the information given should consider the nation's context. Wherever possible, the demographic data of fisheries sector (age, gender, employment, income) should be putted in relation with national data or/and with the Blue Growth sector or a comparable sector from food industries (e.g. agriculture). Useful questions to ask here are: Do fishers receive more or less income than the national average? Are they better or worse educated than the rest of the population?

As much as possible experts should contextualise quantitative data received from DCF with qualitative information. E.g. after the education data is described (cf. figures below), additional information about how the educational access to become a fisher is regulated (e.g. three year apprenticeship) and how the educational systems looks like (e.g. vocational schools) etc.

Cultural impacts such as events and traditions related to fisheries (e.g. festivals) and societal sectors, which are closed linked to fisheries (e.g. processing, tourism, recreational fisheries) should be mentioned.

Figure: Please provide figures for demographic and economic performance of the sector in this section (cf. STEFC-19-03 and AERs)





4. Trends, Issues and Development

The last section of the National Fisheries Sector Profile includes:

- *Description of recent history*
- *Trends in the industry (e.g. development of ports)*
- *Constraints*
- *Opportunities*

Section four presents mainly qualitative knowledge about historical developments of fishing ports/communities and current trends. It sum ups constraints (e.g. sector restructuring, quota allocation, loss of support industries, gentrification on-land and other societal trends with an impact towards fisheries), conflicts at sea (within fisheries and without)), crises, challenges, opportunities (innovations) of a countries fisheries sector.

7.3 Fishing Community Profiles - Guidance Template

This section of the report provides guidance on Community profiling for MS who wish to conduct them. This guidance attempts to ensure that community profiling initiatives across Europe address some common issues and questions without being overly prescriptive. It also hopes to identify who will conduct Community profiling activities. It also aims to clarify the role of Community Profiling in the cycle of EU social data collection and analysis as an additional element (optional but encouraged and incentivised) providing benefits to management decision making and social and economic impact assessment. The section outlines a mixed methods approach which combines qualitative and quantitative data. We also discuss possible funding models for example the US NOAA/Sea Grant Program, and explore the possibility of securing funding through the EMFAF.

7.3.1 Objectives of conducting Community profiling

Community profiles are a key tool for investigating the social and economic conditions of fisheries and fishing communities.

They provide detailed sociocultural, institutional (including governance), and economic data and information in qualitative and quantitative forms which can be used for management decision making and impact assessments.

A time series of community profiles will provide a much more detailed understanding of trends and developments within fishing communities than is currently available.

The rationale and reasoning for putting together a profile must also be understood. Profiles provide data which explain the social and economic importance of the fisheries and maritime sectors in specific communities. They also explain trends and changes such as, for example, loss of access to infrastructure, regulatory changes, social and demographic changes and changes to resource abundance. Critically, they also provide information which can uncover cumulative impacts.

Issues or trends such as the concentration of landings in harbours where auctions are held, e.g. Dutch vessels landing fish in Boulogne sur Mer, are also usefully revealed in community profiling initiatives. The impact of such trends on the subject community, e.g. Boulogne sur Mer, can be assessed but secondary impacts on other communities, e.g. the home ports of the Dutch vessels can also be better understood.

Another important justification for conducting community profiles is that they provide much of the baseline data needed to meet legal requirements, such as impact assessment. There are EU regulations in place which require social and economic issues to be taken into account within fisheries management regulations. Three of these regulations include Impact Assessments as do CFP regulations 2 and 17:

- Impact assessments. IAs are required for all new proposed regulations that take social and economic (and environmental) issues into account as specified within the European Commission Impact Assessment Guidelines (2009) and Toolkit (2015).
- Article 2 (5) of the 2013 CFP Regulation (1380/2013): requires multi-annual plans to take socio-economic aspects into account; and
- Article 17 (CFP 1380/2013 Regulation): requires the use of transparent and objective criteria that including social, environmental and economic criteria when assigning fishing possibilities both within general quotas and those allocated within multi-annual plans.

According to the EU these impact assessments should form part of "an integrated approach which analyses both benefits and costs, and addresses all significant economic, social and environmental impacts of possible new initiatives"

(Source: http://ec.europa.eu/governance/impact/index_en.htm).

7.3.2 What are Community Profiles?

Profiles are a tool for analysing social processes found in fishing communities and in the fisheries sector. They provide details and contexts for necessary for more thorough understandings and analyses of the social indicators found in the DCF. They also allow for understanding the various linkages among different scales (individual, community, region, MS, Sea Basin and EU levels).

Compiling data for profiles is an intensive process. Comprehensive profiles use a mixed methods approach, (see Methodology below) relying on previously compiled data, when available, and using empirical data collection to fill in gaps. Though empirical data collection can be time intensive, especially that of data of a qualitative nature, these data provide critical, contextual information necessary for meeting the goals of the exercise.

It cannot be emphasised enough that a qualified social scientist should be in charge of, or conduct, community profiles. Social scientists are best equipped for evaluating which of the various research methods are best geared towards collecting the different types of qualitative and

quantitative data required. These scientists also have the training to be cognizant of the themes and issues which must be considered when laying out the context and conducting social analyses.

7.3.3 Community Profile Methodology

A mixed-methods approach is the best for undertaking comprehensive profiling. This is a consequence of the nature of profiling, especially fisheries and fishing related ones, which must often include a mixture of social, economic, and biological/environmental data found in both qualitative and quantitative forms.

Qualitative data are used in three situations: as description, placing quantitative data in context; to explain a situation when quantitative data are unavailable; and in situations when qualitative data are the most appropriate. Quantitative data provide a base level of information from which to begin an analysis.

The examples below, from a study of a fishing community in Peterhead, Scotland, (Delaney, 2009) illustrate the importance of both qualitative and quantitative data.

Society

In social terms, Peterhead mirrors much of greater Scottish society. Many people now commute greater distances to work and shop. And there has been a large influx of immigrants (around 20% according to the Council). Though, in Peterhead there are slightly more men than women.

Table 13.

Census results, **2001**	**Peterhead (2004)**	**Scotland**
Resident Population	17, 947 (17,891)	5, 962,011
Males- %	49.74	48.05
Females- %	50.26	51.95

Table 14. Employments statistics

Working age - %	61.54	62.19
Employed persons	13,109	
Average age of unemployed	34.52	
Fishing	4%	
Wholesale and retail trade and repairs	16.06%	

Two fish processing firms are in the top six employers, with Score Group Plc (engineering) and Hm Peterhead Prison the largest employers in the town.

Peterhead has a 3% unemployment rate which is slightly higher than the district and country: Aberdeenshire (1.2%) and Scotland (2.8%).

2.8. Cultural preference for fishing

Though it has been argued that people go where the money is, and if catches are good, fishers will return. And when there is no money in it, people leave, there is without a doubt, a cultural preference for fishing among some. For these people, it is the "way of life" which is rewarding and which focuses both their worldview and their comfort.

> *But people … you see like my self, and the guys that are still going to sea, they are different from most people. You see it as well off at work first and the on for work for some of the guys that works here. But it is just I would be fresher to see them [work at sea types].*

When this alters, and when the future is ambiguous, *anomie* and stress set in. Examples of the stress seen in fisheries communities in downturns include: Stress in families, husbands and wives often less patient and more angry. Drinking and drug usage is often reported to rise. Though in the Peterhead/Fraserburgh area many argued drug usage was highest in the "heydays" of fishing when young guys has excess income. Fraserburgh also has a reputation for drug abuse given a televised report from a number of years ago; reputations stick. Doctors interviewed in town did not believe drug usage was up in these last 5 years. Additional work is needed to uncover whether there are the increased health problems so often seen during the decline of resource-extraction centered communities (e.g. fishing, forestry, mining, etc) Conventional wisdom and fisher's wives have argued that the health problems seen by their skipper husbands include being physically ill from stress, heart problems, and ulcers; just to name a few maladies. Wives in Urk argued it is impossible to count the deaths from stress; stress because of management pressures.

The work of compiling profiles could be undertaken by staff in the contracting authority – e.g., in a Ministry, Department of Fisheries, or in an affiliated Science Centre. Alternatively it could be done by academics or researchers as utilized in the Japanese fisheries extension service and the US Sea Grant Program. The Japanese extension system for fisheries began in 1953. There are approximately 460 extension officers, each of them belonging to a prefectural government. Fisheries extension officers are "to disseminate fishery technologies, fostering of fishers, as well as acting as intermediary between fishers and government." They work within fishing communities, fisheries research centers, and the prefectural government's fisheries offices. Japanese public university researchers also work closely with the research centers.

The US Sea Grant program is a federal-university partnership program that brings science together with communities. The Sea Grant network consists of a federal/university partnership between NOAA and 34 university-based programs. The network draws on the expertise of more than 3,000 scientists, engineers, public outreach experts, educators and students to help citizens better understand, conserve and utilize America's coastal resources.

Another possibility is for the work to be done through an open tender process via FLAGs or EU FarNet activities.

7.3.4 Relevant Concepts, Definitions and Terms in Community Profiling

The discussion of community profiling requires defining key terms: community; fishing community; vulnerability, resilience; well-being; dependence/reliance.

In order for Community profiling to be undertaken, the community must first be defined. The definition of community has been debated by social scientists for decades. For many in fisheries, a community is "place-based". That is, it is a physical location which is often a village, town, or city with a port centering the activity.

Additionally, what constitutes a "fishing" community may have a general meaning; simply a delimited locale that has a port and a fishing sector operating out of it. Or, it may have a more specific meaning, sometimes even defined by law for fisheries management purposes: "a fishing community is defined as a community that is substantially dependent on, or substantially engaged, in the harvest or processing of fisheries resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew" (Clay and Olson 2007).

Vulnerability

Vulnerability has multiple definitions, depending on the context (e.g., climate change, natural hazards, poverty and limited food security). Vulnerability research is often used to identify the characteristics of a community (or population) that influence the social burden of risk and "susceptibility of a given population, system, or place to harm from exposure to the hazard…" (Cutter et al. 2009:2). Further, social vulnerability is centered in both demographic and socioeconomic characteristics of local populations that increase or attenuate the impacts of hazard events (Cutter et al. 2009).

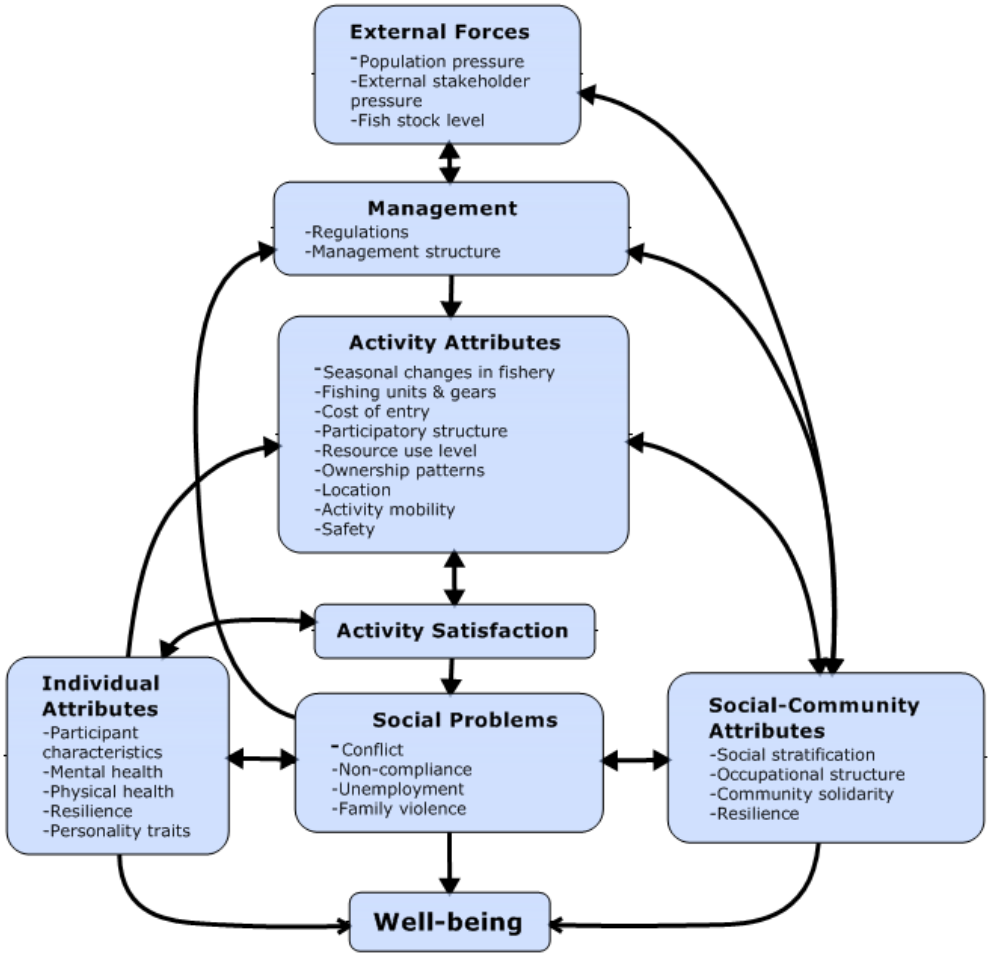
Resilience

Both natural and social sciences emphasize that a system can have multiple stable states and that disturbances can force communities to shift from one state to another and still maintain their functional characteristics or be resilient (e.g., Peterson et al. 1998; Folke 2006). Social scientists usually emphasize a system's ability to cope and adapt to change, but social systems cannot be easily separated from ecological systems. The concept of "social-ecological resilience" attempts to capture this interaction (Walker et al., 2004). What is clear is that the interactions between the human and non-human environment have synergistic aspects and may adapt or transform over time (Folke, 2006).

Well-being

Well-being is also a key concept if one wants to analyse resilience for, for example, looking into social impacts.

The concept of *well-being* is well established in the literature as a measure of quality of life. Research has demonstrated that secondary measures of well-being and its correlates e.g., vulnerability and resilience, can inform us regarding the quality of life of individuals and their communities (e.g., Smith and Clay, 2010). The Pollnac et al. (2006[2008]) model (below) illustrates the relationship between multiple attributes that directly or indirectly influence well-being at individual and community levels.



Dependence/Reliance

Jepson & Colburn 2013 developed a useful model in which concepts of vulnerability and resilience are linked in relation to events that can impact fishing communities. These events can be directly related to fishing (i.e. regulatory change) or be linked to other communal aspects (i.e. school closing) or events such as shocks (i.e. hurricane). Resilience refers to how socio-ecological systems can 'have multiple stable states and that disturbances can force communities to shift from one state to another and still maintain their functional characteristics or be resilient' (reference made to Peterson et al. 1998 and Folke 2006). In the model Jepson & Colburn 2013 differentiate between vulnerability as a pre-event condition and resilience is used in the analysis of the response of communities to events.

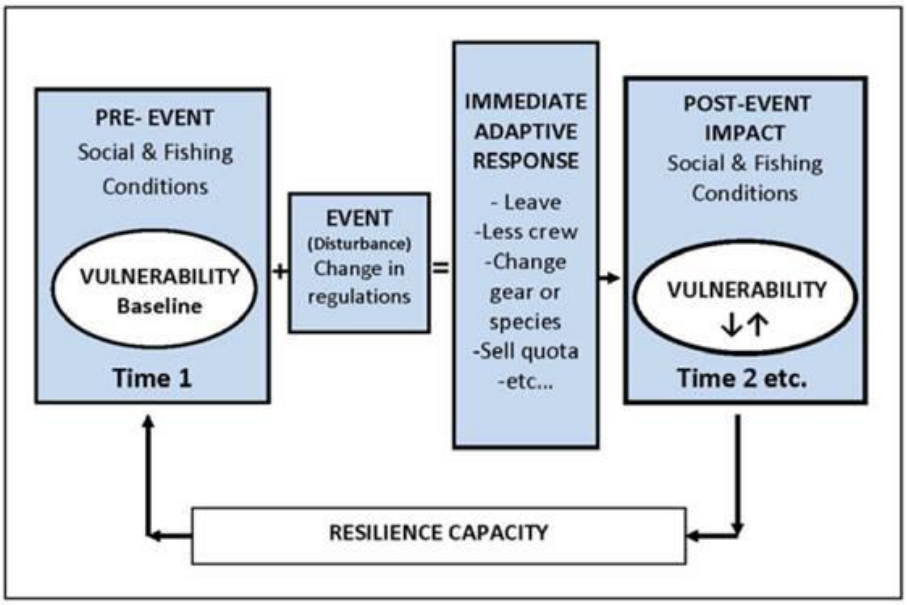


Figure 2. The Vulnerability and Resilience Time Series Model

7.3.5 Recommended sections in Community Profiles

This section presents some explanation and descriptions of the suggested requirements in a profile, including headings/topics. All sections should include maps, tables, graphs, and photos where relevant.

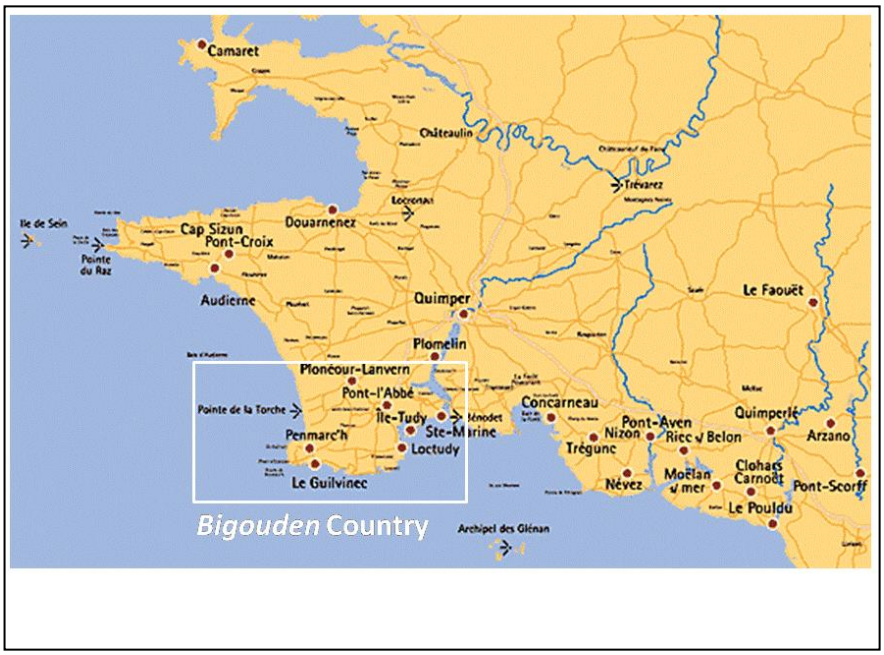


Figure 1. Map of Cornouailles in Brittany. Guilvinec Maritime district constitutes the south part of the Bigouden country. (Delaney, 2009)

Sections of the Community profiles covered here include:

- Introduction to the people and the place
- Social structure
- Infrastructure and facilities
- Current economy

- Involvement in fisheries
- Governance
- Cultural attributes relating to fisheries and the sea
- Challenges and opportunities
- Trends and development

- **Executive Summary**

Depending on the length of the Community Profile being compiled, an executive summary could be useful in that it focuses the main message and key findings and "take aways" in a succinct manner.

- **Introduction to the People and Place**

In order for community profiling to be undertaken, the community must first be defined. The definition of community has been debated by social scientists for decades. For many in fisheries, a community is "place-based". It is a physical location which is often a village, town, or city with a port centring the activity.

Additionally, what constitutes a "fishing" community may have a general meaning; simply a delimited locale that has a port and a fishing sector operating out of it. Or, it may have a more specific meaning, sometimes even defined by law for fisheries management purposes: "a fishing community is defined as a community that is "substantially dependent on, or substantially engaged, in the harvest or processing of fisheries resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew" (Clay and Olson 2007).

A fishing community may also be one where fishing related activities are currently less than those in an historic period, but it retains an identity or footprint of fishing community.

One example of this is Løkken in Denmark where the community subsidises some local fishermen in order to create an attractive environment for tourists. This shows how fisheries are important for the image of the community but it is not actually "dependent" on fishing.

The Introduction to the People and Place should include:

A brief descriptive overview of the community including its:

- geography, (including land and sea areas accessed and connected with),
- history and cultural heritage,
- main industries/employers, and
- a description of its overall character (e.g., related maritime history).

An illustrative excerpt from the Peterhead, Scotland, Community Profile is given below as an example.

> *… Nevertheless, in 2002, 110,000 tons of white fish, shellfish, herring and mackerel were landed in Peterhead, valuing more than £70 million. The new, chilled fish auction was opened in 2002 and part of the harbour is a large, modern deep-water "Harbour of Refuge". This harbour provides for not only the fishing industry, including large pelagic boats, but also the North Sea energy industry and tourist cruise ships.*
>
> *The North Sea oil industry has been, since the 1960s, important for employment in the region. North Sea oil comes ashore to the south of town, at Cruden Bay; North Sea gas is brought ashore at St Fergus immediately to the north. The ASCO North Base and South Base located within Peterhead Bay make up the largest fully integrated oil service base in the world.*
>
> *As the fishing sector faces a down-turn and significant quota and fleet reductions through decommissioning, the energy sector provides an important*

fallback for men with skills and a good work ethic. The work ethic, and to a lesser extent the (previous) religiousness (Calvinist tradition), and the historical cultural preference for endogamous relationships and marriage patterns among fishers in fishing communities sets them apart from others in the surrounding regions. Farming and fishing villages were very distinct in the past with people rarely interacting with those outside their community or group.

Women have also had a large role to play in Peterhead's fisher culture. This is commemorated by a statue of 'Fisher Jessie' in the centre of town. Carrying a large wicker basket of fish on their backs, these 'creel wives' would walk through the Buchan countryside selling their wares—an occupation that continued through the 1950s; this was an activity seen throughout the NE of Scotland (Nadel-Klein 2003). Women from the NE area of Scotland are also known to have carried their husbands on their backs to get out to the small boats from beaches in order to keep the men dry and safe. With these roles, in addition to travelling up and down the coasts to gut and salt herring, women therefore have long taken an active role in Peterhead fisheries in addition to their supportive role in fishing households.

- **Demographic profile**

A description of the demographic profile of the community, and how it compares with the regional and national levels should be included. Demographic data should cover the following variables:

- Population characteristics (disaggregated into age brackets), including:
    - overall population
    - working population
    - education levels
    - nationality
    - income

- **Social structure**

Understanding the society and social support structure of the community is important since one aspect of resilience and sustainability is community support. Communities differ in the degree to which governmental social support is available so a review should be undertaken to understand the local situation.

Governmental support includes the MS's social security system, including health insurance and retirement pension system. The details of who is eligible and what the eligibility and renumeration details are important to know. Relevant details include: retirement age; years of working. Other aspects of a MS's social welfare system may include subsidies for low income such as childcare, housing and cash payments. Some MS may have alternative systems, such as insurance through POs or cooperatives

Historically, social capital, i.e., networks of people able to lend aid, was often all that was available to people and fishing operations in times of crises. Such networks remain important at community level.

An example is given below of how similar information could be presented. This is from a US Community Profile of Rockland in Maine (Johnson, Henry and Thompson, 2013) which is overall a very useful example of how a community profiling initiative can build up a detailed picture of a fishing community without itself being overly lengthy.

Household income (%)	Earnings	Social Security	Retirement	SNAP
United States	79.7	27.5	17.5	9.3
Maine	76.5	31.6	18.8	13.6
Rockland	70	37.6	18.7	26.4

Table 1: Percent of households with income from earning, social security, retirement and SNAP. Source: ACS 2010.

- **Fisheries relevant Infrastructure and Facilities**

An account should be provided of relevant transport and industrial infrastructure in the community. This would include port facilities such as shipyards, vessel lifts and cranes, fish auction facilities and transport infrastructure such as rail, road and ferry networks, distance to airports.

- **Current economy**

Employment data for the community as defined should be compiled and analysed focusing on the community's dependency and reliance on the fisheries. Employment should be broken down into employment numbers in catching, shoreside, ancillary industries, etc. Where possible incomes for these different sectors should also be described and where available compared with regional incomes as per the example above from Rockland, Maine.

For the catching sector the most common employment arrangements for crew should be described i.e. are crew mainly share fishermen or on contract and any recent trends in these arrangements should be described.

The issue of occupational pluralism should be examined where possible as in many cases fishing may form only part of an individual or family's income and may be combined with farming or other activities.

- **Involvement in Fisheries**

A detailed description of fishing and fishing related activities should be provided. This should include the size of fleets, numbers of vessels in different categories such as LSF, SSF, recreational, and subsistence, most important species targeted, gears used and any significant recent changes or trends in the above. Any notable conflicts between different fleets is also an important issue to capture.

- **Governance (including Law and Policy)**

The organisation of fishing related institutions, such as fishing organizations, unions, producer's organisations, federations should be described. This section should ensure that how small scale fisheries interests are represented by collective organisations are covered. Engagement and interactions with other levels of governance, regulatory and legal frameworks should be included also.

- **Cultural Attributes related to fisheries and the Sea**

This section of the profile should describe key sociocultural attributes related to fisheries, maritime-related industries and the sea which set this community apart. These attributes can include specific customs and behaviours as well as the existence of special community groups.

How visible are fisheries and maritime cultural heritage? Are there maritime or fishing related museums and monuments? Are there traditional craft (i.e. boats)? Festivals? Are symbols of these used locally (e.g., in restaurants, shopping areas) and in tourism?

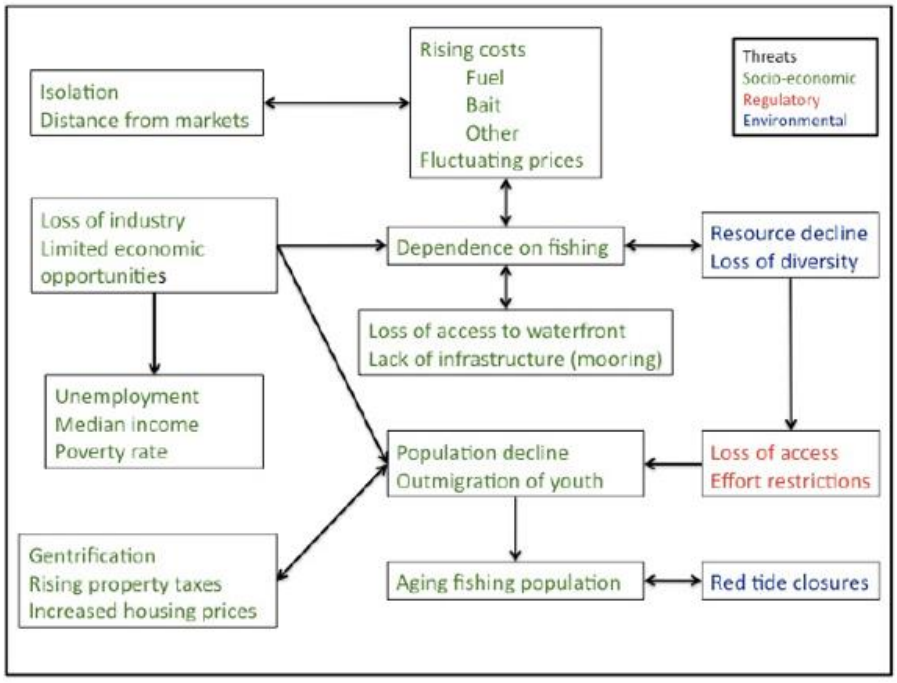
Is the character of the community defined by fishing? Are there fishing festivals, blessings of the fleet, etc.? Do residents self-describe themselves as being in a fishing community? Do visitors describe it as a fishing community? At the individual level, is there a preference for fishing and this "way of life"?

An important commonly-held sociocultural attribute is community as a part of a shared, collective identity. Fishing heritage can remain as a part of a shared identity even as the industry shrinks. *"Communities are defined, in large part by the stories people tell about them. These stories provide an account of the community's origins, history, the character of its people, and what the community should look like in the future. The heritage narrative provides a possible starting point for the social construction of reality about the community* (Bridger 1996).

- **Perceptions of challenges and opportunities**

Community profiles should include an assessment of the community's perceptions of challenges and opportunities. This should include the natural as well as the societal, economic and governance environments. Challenges or constraints could include issues such as sectoral or fleet restructuring, quota allocation changes, loss of support industries, gentrification on-land, conflicts at sea (within fisheries and without), COVID-19, etc.

Opportunities could include related industries such as processing, development of other marine natural resources such as seaweeds, offshore energy, changes in governmental policies etc.



Example of socio-economic, regulatory, and environmental threats (Johnson, 2013b)

7.3.6 Conclusions

EWG 20-14 discussed in greater detail recommendations from EWG 19-03 that both national and community profiles should be developed in order to contextualise DCF data.

- Profiles provide us with more social data than we currently have in order to improve management decision-making by including the human/social dimensions of fishing and of the CFP.
- National profiles help us to contextualise the DCF data at a high level – without this context DCF variable data only leads to further questions.
- Community profiles provide information on communities where fisheries have a strong social and cultural footprint. This local importance is usually obscured at national level.
- A time series of community profiles will provide a much more detailed understanding of trends and developments within fishing communities than is currently available and which reveal the local effects of policy often developed at transnational level.

The report provides guidance on the elements which should be covered in both profiles.

For **National profiles** a detailed template is provided with a comprehensive list of descriptors, and we outline potential data sources the majority of which are available at sources such as Eurostat, DCF, Eurofound.

National profile descriptors are grouped under 4 main categories or sections:

- Factsheet (overview of headline facts including inter alia fleet segments, fleet capacity, numbers employed, volume and value of landings),
- Description of main fisheries and fleets (including inter alia main fisheries and fleets, geographical areas fished, market and trade, management and governance).
- Social, cultural and economic aspects of fisheries (including inter alia institutional and legal elements, employment, social security and labour aspects, education and training)
- Trends, issues and development (including inter alia recent history and trends in the industry (e.g. development of ports), Constraints, Opportunities)

We provide some example text, tables and figures where appropriate for the profiles to provide additional guidance.

For **Community profiles**, which is a much more detailed undertaking than the compiling of national profiles, the report provides guidance to MS who wish to conduct community profiles. The guidelines attempt to ensure that community profiling initiatives across Europe address some common issues and questions without being overly prescriptive. A detailed description of the desired sections and some methodological advice are provided. The report also includes links to examples of good profiles.

Sections of the Community profiles could include:

- Introduction to the people and the place
- Social structure
- Infrastructure and facilities
- Current economy
- Involvement in fisheries
- Governance
- Cultural attributes relating to fisheries and the sea
- Challenges and opportunities
- Trends and development

We outline recommendations on pragmatic solutions to how to resource these profiling initiatives.

We also provide guidance on the skills required for profiling and outline the necessity for the involvement (ideally as part of a team) of a non-economic social scientist.

The work compiling profiles can be undertaken in a number of ways:

- Staff on-hand in the contracting authority – e.g., in a Ministry, Department of Fisheries, or affiliated Science Center.
- By collaborating with academics or research institutes – E.g. Japanese Ministry fisheries extension service or US Sea Grant Program.
- Funding for community profiling could potentially be achieved through the EMFAF.

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9 CONTACT DETAILS OF EWG-20-14 PARTICIPANTS

[1] - Information on EWG participant's affiliations is displayed for information only. In any case, Members of the STECF, invited experts, and JRC experts shall act independently. In the context of the STECF work, the committee members and other experts do not represent the institutions/bodies they are affiliated to in their daily jobs. STECF members and experts also declare at each meeting of the STECF and of its Expert Working Groups any specific interest which might be considered prejudicial to their independence in relation to specific items on the agenda. These declarations are displayed on the public meeting's website if experts explicitly authorized the JRC to do so in accordance with EU legislation on the protection of personnel data. For more information: http://stecf.jrc.ec.europa.eu/adm-declarations

STECF members		
Name	**Affiliation[1]**	**Email**
DÖRING, Ralf (ewg co-chair)	Thuenen-Institute of Sea Fisheries. Germany	ralf.doering@thuenen.de
JUNG, Armelle	DRDH France	armelle@desrequinsetdeshommes.org
VAN HOOF, Luc	WMR. Netherlands	luc.vanhoof@wur.nl

Invited experts		
Name	**Affiliation[1]**	**Email**
BALLESTEROS, Marta	CETMAR. Spain	mballesteros@cetmar.org
BRIGAUDEAU, Cecile	Althea Consultant. France	cecile@altheaconsultant.com
CARPENTER, Griffin	United Kingdom	griffincarpenter@gmail.com
DELANEY, Alyne Elizabeth	Aalborg University. Denmark	ad@ifm.aau.dk
FITZPATRICK, Mike (EWG co-chair)	Irish Observer Network Ltd. Ireland	mike@irishobservernet.com
FRANGOUDES, Katia	Université de Bretagne Occidentale UMR AMURE. France	Katia.frangoudes@uni-brest.fr

GOTI, Leyre	Thuenen-Institute of Sea Fisheries. Germany	Leyre.goti@thuenen.de
JACKSON, Emmet	Bord Iascaigh Mhara. Ireland	Emmet.Jackson@bim.ie
KINDS, Arne	Université de Bretagne Occidentale (UMR AMURE), France & ILVO. Belgium	arnekinds@gmail.com
KRAAN, Marloes	Wageningen Marine Research. The Netherlands	Marloes.kraan@wur.nl
LASNER, Tobias	Thuenen-Institute of Fish Ecology. Germany	Tobias.lasner@thuenen.de
MALVAROSA, Loretta	Nisea, Fishery and Aquaculture Economic Research. Italy	malvarosa@nisea.eu
NICHEVA, Simona	Executive agency for fisheries and aquaculture. Bulgaria	Simona.nicheva@iara.government.bg
PASCUAL-FERNANDEZ, Jose	Universidad de La Laguna. Spain	jpascual@ull.es
RIBES MORENO, Isabel	Universidad de Cádiz. Spain	Isabel.ribes@uca.es
SAID, Alicia	Department of Fisheries and Aquaculture. Malta	Alicia.said.1@gov.mt
TZOURAMANI, Irene	Agricultural Economic Research Institute – HAO DEMETER. Greece	tzouramani@agreri.gr

JRC experts		
Name	**Affiliation[1]**	**Email**
GUILLEN, Jordi	European Commission, DG Joint Research Centre. Ispra, Italy	Jordi.guillen@ec.europa.eu

European Commission		
Name	**Affiliation[1]**	**Email**
GUILLEN, Jordi	European Commission, Joint Research Centre, STECF secretariat, Ispra, Italy	Jrc-stecf-secretariat@
MAES, Raymond	European Commission, DG MARE, Brussels, Belgium	Raymond.maes@ec.europa.eu

Observers		
Name	**Affiliation[1]**	**Email**
MANGANO, Mariacristina	Stazione Zoologica Anton Dohrn. Italy	Mariacristina.mangano@gmail.com
PIRON, Marzia	Mediterranean Advisory Council. Italy	Marzia.piron@hotmail.it
VIŠNIĆ NOVAKOVIĆ, Svjetlana	Ministry of Agriculture. Croatia	Svjetlana.visnic@gmail.com

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11 LIST OF BACKGROUND DOCUMENTS

Background documents are published on the meeting's web site on:

http://stecf.jrc.ec.europa.eu/web/stecf/ewg2014

List of background documents:

EWG-20-14 – Doc 1 - Declarations of invited and JRC experts (see also section 9 of this report – List of participants)

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KJ-AX-20-017-EN-N

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doi:10.2760/255978

ISBN 978-92-76-27169-7