

# **Methodologies for the socio-economic data described in EU MAP**

**Ad hoc contract Commitment No. SI2 725 694**

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## Introduction

The common fisheries policy (Reg. EU n. 1380/13, article 25(2)) sets out the key principles for data collection:

- accuracy
- reliability and timeliness
- avoidance of duplication through improved coordination
- safe storage in database systems
- improved availability of data
- compliance with laws on personal data protection
- access for the European Commission, enabling it to check the availability and quality of data and the methodology used to collect them.

Another basic principle is that the methodologies by which data are obtained have to be made available to bodies with a research or management interest in the scientific analysis of data in the fisheries sector and to any interested parties.

The legislative framework that is under implementation takes into account these principles and also considers the need to have an appropriate degree of flexibility to address evolving needs of end-users over time. In particular, the system should allow for modifications to methodologies to be used.

One of the key changes considered through the revision of the DCF is that methodological aspects should no longer be specified in EU legislation, as it is in the present framework, but should be left to coordination between Member States through the EU Coordination Group for socio-economic (PGECON).

Methodological requirements shall be described in Member States' work plans to be approved by the Commission, following best practices and common methodologies.

The use of common methodologies will improve the collection, quality and comparability of the different variables among MS. However, despite of extensive discussion on the definitions in relevant experts groups (DCF, PGECON, STECF) and references from the European statistical System (ESS, EUROSTAT, SBS), there are still no clear guidelines and recommendations on the methodologies for each of the socio-economic variables belonging to the fleet, aquaculture and fish processing modules of EU data collection.

PGECON (Zagreb, May 2016) was asked to provide a clear and detailed description of the data collection methods. To achieve this task, a specific ad hoc contract was issued by DGMARE.

The present document is the final outcome of the ad-hoc contract.

## Objectives

The Terms of reference of the ad hoc contract are the following:

- The work will deal with methodologies on how to collect variables under the DCF socio-economic modules for the fleet, aquaculture and fish processing.
- For each variable, a methodology should be proposed. This might be an already agreed methodology (for certain cases) or, in the case of several possible methodologies, the expert should propose only one methodology, based on its simplicity, relevance, accuracy and consistency. For those variables where no methodology exists, the expert should propose a methodology, keeping consistency with international and EU definitions and statistics.

The preliminary input from this ad hoc contract have been discussed in the 2016 DCF expert sub-group on economic issues (Planning Group in Economic Issues). Annex 1 reports the presentation done during the PGECON.

Proposals and suggestions discussed during the above meeting have been included in the present final version.

## Approach used and critical issues

The basic principle followed in this work has been the compilation of all the methodologies already suggested in previous STECF reports, PGECON reports and in DCF workshops. In addition, NPs and ARs have been scrutinized to look for “best practices” already applied by some MS for some variables.

The complete list of reports considered is the following:

- 08-01\_SG-ECA 08-01 - Economic Variables DCF. 21-25 January 2008, Lisbon - Report of the Working Group on the evaluation of Economic variables to be collected for the fishing industry, the processing and aquaculture sectors under the new EC Data Collection Regulation
- 09-05\_SG-ECA 09-02 - Economic Data. 11-14 May 2009, Barcelona - Quality aspects of the collection of economic data, methods of calculation of the indicators and sampling strategies
- 10-09\_SG-ECA 10-03 - Economic Data. 20-24 September 2010, Salerno, Italy - Review of economic data collected in relation to the Data Collection Framework (DCF), harmonisation of sampling strategies
- 2011-12\_STECF 11-19 Review of economic data in relation to DCF. 7th to 11th, 2011 in Brussels, Belgium - Review of economic data collected in relation to the DCF and harmonisation of sampling strategies
- PGECON final reports 2012, 2013, 2014 and 2015
- Workshop on calculating capital value using PIM and definition of DCF variables Naples, Italy, 13th- 17th, June 2011
- DCF Workshop “Using fishing activity levels in economic data collection” The Hague, The Netherlands 13 17 October 2014
- DCF Workshop on statistical issues and thresholds, Helsinki, Finland 9.-13.12.2013
- Workshop on Aquaculture Data Collection 15 -19 June 2015 Gdynia, Poland
- JRC, 2015 - Analysis of socio-economic variables for fisheries, aquaculture and fish processing sectors in support of the revision of the EU Data Collection Framework

The present work presents important two critical issues.

The first one is represented by the fact that the EUMAP is still under discussion. The present work is based on the version of EUMAP circulated by DGMARE at the end of April (2016-463). Therefore, the final list of economic and social variables for which define a methodology is not yet available.

**(Rec. 1)** It is considered essential to review the work after the adoption of the EUMAP.

Another critical point is the estimation of capital value and capital costs. The estimation of these variables is crucial for calculation of profitability indicators which have important impact on management decisions. According to the definition of Capital Value included in the DCF (Commission Decision 2010/93/EU, Appendix VI), the capital value should represent the depreciated replacement value of the physical capital. This should be estimated through the PIM methodology as proposed in the study FISH/2005/03: Trepa Onlus Coordinator, 2006’.

The application of the PIM methodology allows a highly standardised calculation. However, it implies a wide range of possible input data (interest rates, depreciation times and methods) which lead to some degree of uncertainty and lack of harmonisation.

After the “Workshop on calculating capital value using PIM and definition of DCF variables” (Naples, Italy, 13th- 17th, June 2011), the PGECON 2012 and DCF working group on ‘Evaluation of Data Collection connected to fishing rights and capital costs’ (Gothenburg, 18/22 November 2013), the application of the PIM Method and corresponding results are still questionable and not comparable between MSs. This is mainly due to the input parameters of the PIM Method which are difficult to be determined and varies from one year to another, as well as various assumptions that MSs have to make in the application of the PIM method which are not listed in the above mentioned study of 2006 such as the age classes of vessels to be included in the calculation, i.e. which age classes are considered a vintage classes and therefore replacement value is not applicable.

**(Rec. 2)** As the application of the PIM method affects the value of other variables such as the capital costs and investments, PGECON (Zagreb, 2016) observes the need of a new study or working group to review the calculation of the capital value and eventually update the underlying assumptions. Such study should also involve other experts from related fields such as agriculture and also academic researchers.

One approach that may result from this study or workshop is a pyramidal style code of practice. The ideal survey method, the census is at the top with sample survey methods, indirect methods etc below. The member state aims for the ideal survey method but due to its particular circumstance, resources, population structure etc, may choose a lower less ideal methodology but with justification.

## Main results

Economic variables can either be:

1. obtained directly from survey or
2. estimated through indirect surveys or derived from other surveyed variables.

An example of the second case is personnel costs which can either be collected directly from survey or derived from the crew share based calculation. In the latter, the surveyed variables could be revenues, costs and crew share.

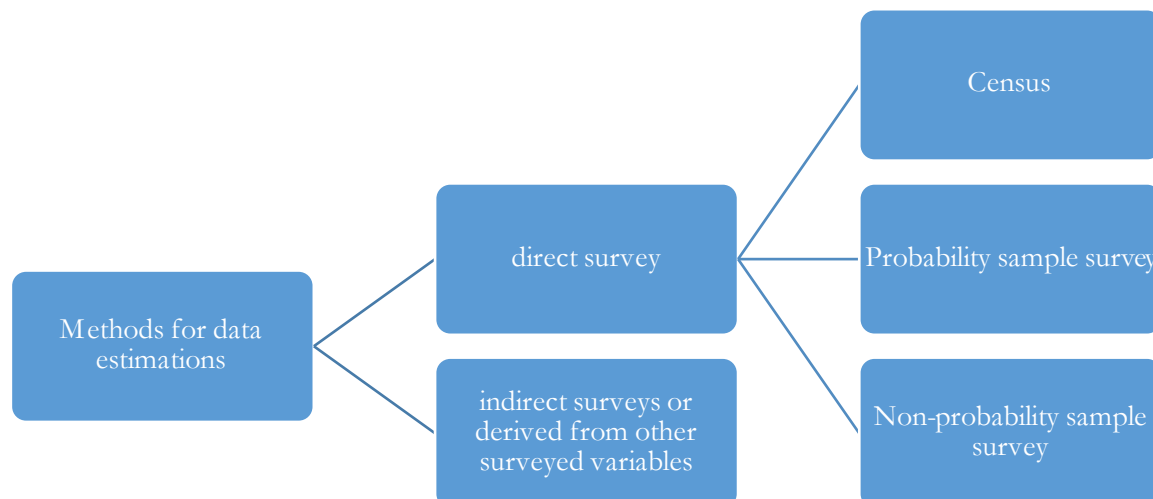
**(Rec. 3)** It is considered not appropriate to define only one methodology for each variable. In fact, as discussed in the workshop in the DCF WS on statistical issue (Helsinki, 2013) and in the STECF SGECA 2010 and as considered during the last PGECON (Zagreb, 2016), MS try to choose the best data collection approach available and most suitable for the country specific needs and conditions. The best method to use depends on which economic variables and other information is available at Member State level.

In case data are estimated through indirect surveys or derived from other surveyed variables (point 1), MS should be obliged to follow best practices and methods identified at European level and approved by PGECON.

In case data are obtained directly from survey (point 2) and in accordance to the guidelines for the submission of the Annual Reports on the National Data Collection Programmes under Council Regulation (EC) 199/2008, Commission Regulation (EC) 665/2008 and Commission Decision 2010/93/EU (January 2016), three types of data collection scheme are available:

- Census survey
- Probability sample survey
- Non-probability sample survey

MSs design their surveys based on the chosen method.



The DCF WS on statistical issue (Helsinki, 2013) compiled a summary on the specific data collection and estimation procedures implemented in each MS.

Results confirm that there are mainly three different approaches in the data collection:

1. census based data collection (for instance in Lithuania, Latvia, Poland, Romania, Slovenia). This data collection method is mainly enabled by the national legislative processes where for example issuing of fishing licenses is connected with the obligation to provide the financial statements data;
2. statistical sample survey. Probability Proportional to Size (PPS) sampling, and random sampling are used in these cases (for instance Italy, France, Ireland, Greece);
3. regression estimation using sample data and registry data (for instance Finland, Germany).

The application of different type of survey is explained by the fact that MS tried to choose the best data collection approach available and most suitable for the country specific needs and conditions.

### *Methodological report and guidelines on statistical sampling*

STECF 09-05 already considered that MS should include in their National Programs a “methodological report” in order to obtain methodology descriptions of a comparable standard among Member States.

This recommendation was considered in the preparation of guidelines for NP presentation (2011-2013).

In the draft of guidelines for National Work Plans (NWP), to be used by MS in preparation of the workplane 2017-2019, it is reported that:

*Where survey work is being undertaken, concise details should be given about:*

- *Data sources*
- *Type of data collection*
- *Target and frame population*
- *Sampling frame and allocation scheme*
- *Estimation procedures*

- *Data quality*

PGECON (Zagreb 2016) continued to consider important this issue and recommended **(Rec. 4)** that each MS prepares a methodological report that describes in detail the data collection process. The report should contain the following points:

- Survey planning
- Survey strategy
- Overall survey design
- Sampling design
  - sample selection and estimation
- Estimation design
  - statistical models and use of auxiliary information
  - treatment of nonresponse
- Quality assessment of estimates
  - estimation methods for quality indicators

Methodological report should be a self-standing document that would be available on the data collection repository.

Methodological reports should describe the methods and procedures on which the surveys, results and analyses of economic data collection are based. They aim to ensure transparency and to promote collaboration MS data collection institutes and and researchers. Methodological reports also focus on the development and evaluation of new methods with a view to future application.

In case of direct survey, the DCF WS on statistical issue (Helsinki, 2013) considered useful to provide MS with statistical guidenlines. LM 2014 endorsed the conclusion from this WS stating that it would be very useful in improvement of future data collection and WS to prepare a handbook on guidelines of best practices in sampling design and estimation methods. The aim of the handbook shuld be to give clear guidance how to technically implement the principles in the data processing and analysis in individual MS.

However, it has to be considered that STECF 10-09 already provided guidelines to illustrate statistical techniques in case of simple and stratified random sampling. These guidelines provide information and reference for the following steps in the survey design and implementation:

- Simple random sampling
- Stratified random sampling
- The estimation of sample size and allocation across strata
- Estimation of parameters
- Sources of error in surveys
- Effects of non-response

### *Specific issues on aquaculture*

The WS on aquaculture data collection (Gdynia, 2015) followed the request by the Planning Group on Economic Issues (PGECON) to provide technical advice to improve the methods for aquaculture data collection and harmonize data collection methods across MS.

The main outcomes in terms of methodologies for aquaculture data collection were:

- national implememting methods should be shared under the PGECON shared point and hosted by JRC. The aim of this exercise is to improve quality of data

- MSs presented their methods for allocating enterprises into DCF segments in cases when few different techniques are used and/or different fish species are produced. In such cases it is recommended to apply one of two methods:
  - o either use production unit/establishment level to allocate the data instead of enterprise level
  - o or create a new polyvalent segment where enterprises without a dominant production segment could be allocated.
- The WS evaluated the possibility to collect data for Eurostat and DCF through the same data collection system and questionnaire allowing for the gradual alignment of the Eurostat and DCF data collection systems. The conclusion from the WS was that most MSs are currently avoiding duplication of data collection. In a minority MSs, Eurostat and DCF data are collected by two different institutions and contain different information which is available at different periods of the year; therefore it is not feasible to combine data collection into one single questionnaire.

### *Specific issues on processing sector*

The collection and provision of data on processing industry will be considered optional in the EUMAP (not approved yet).

In order to avoid duplication of data collection activities, STECF 16-07 suggested that work plans shall clearly identify the variables and the part of the population covered through Regulation (EC) No 295/2008 concerning structural business statistics and the variables and the part of the population that have to be covered through additional data collection methods.

Under this ambiguity, it is difficult to draft a document with methodologies for each variable. Legal requirements for MS should be clearly identified before approving a final proposal on methodologies.

## Identification of methodologies

The methods available to calculate the economic variables for each sector (fleet, aquaculture and processing) have been identified. Where it was possible, the preferred method for such calculations was highlighted. Results are presented in the following tables:

- Table 1 Economic variables for the fleet
- Table 2 Economic variables for aquaculture
- Table 3 Economic variables for fish processing sector

## Suggestions from PGECON

PGECON (Zagreb 2016) considered that it is not feasible to obtain a complete and fully defined document on methodologies for calculation and collection of each economic variable through a (short) ad hoc contract.

Therefore, PGECON suggested to implement the following procedure:

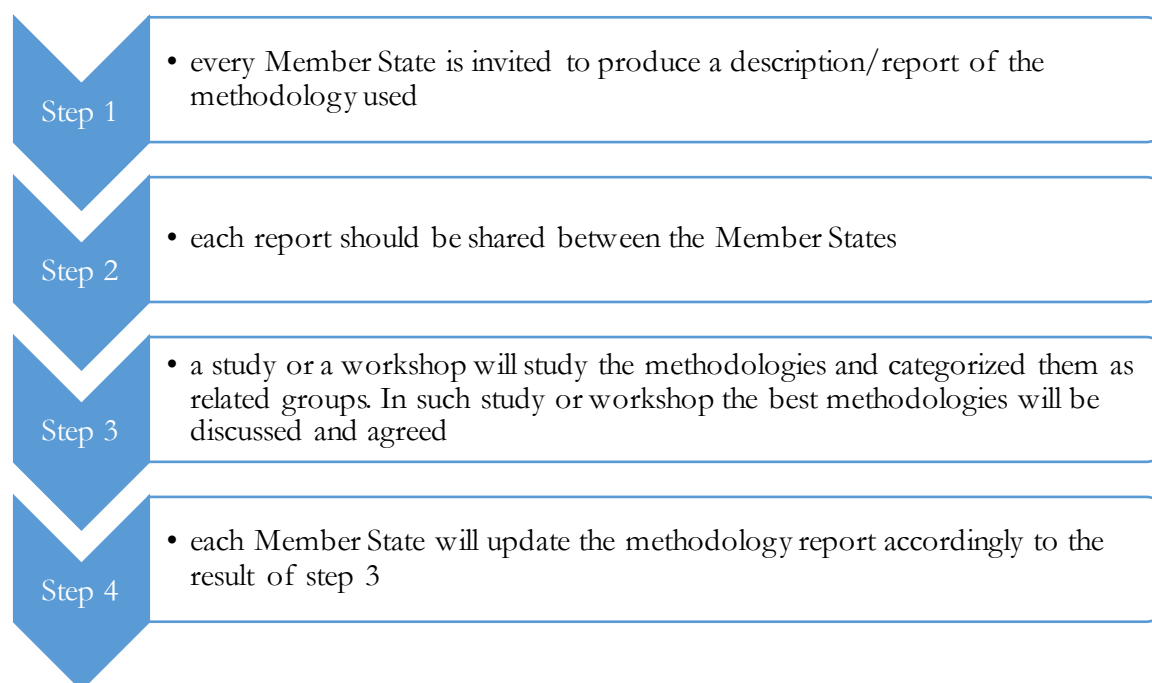




Table 1 Economic variables for the fleet

Variable group	Variable	PGECON advice	Methodology
Income	Gross value of landings	Control data (logbooks and sales notes) should be used in case they are available and reliable, otherwise sample surveys might be used.	<b>1. Obtained directly from survey</b>  <b>2. Derived from administrative sources or other surveyed variables.</b> The data source is the official national statistics on landings
	Income from leasing out quota or other fishing rights	Two methods might be used	<b>1. Obtained directly from survey.</b>  <b>2. Derived from other surveyed variables.</b> In case the trade (lease) information in terms of fishing rights is available from the official sources this information together with the average lease price might be used to calculate the variable. The average lease price would be collected through the survey.
	Other income	No comments	<b>1. Obtained directly from survey.</b>
Labour costs	Personnel costs	Two methods are appropriate to be used. It is advised that MS takes into account how crew share is defined in the fishery at a national level, in case crew share based calculations are used.	<b>1. Obtained directly from survey</b>  <b>2. Derived from other surveyed variables.</b>  In several fisheries crew members are remunerated through crew share systems, rather than fixed salaries. In this case, personnel costs can be calculated as % of revenues, or as % of revenues-costs.  To correctly apply this method, it is necessary to define, for each fleet segment: <ul style="list-style-type: none"> <li>• what is the approach used to calculate the share: as percentage on total revenues or as percentage of revenues – costs</li> <li>• what are the costs actually included to calculate the share</li> <li>• what is the percentage that goes to the crew</li> </ul>
	Value of unpaid labour	PGECON discussed the two methods used by MS deriving unpaid labor costs and agreed that method A should take	<b>Derived from other surveyed variables.</b> The estimation of the imputed value of unpaid labour represented one of the issue discussed during the Workshop on calculating capital value using PIM and definition of DCF variables that was held in Napoli, Italy, from 13th to 17th June 2011. The discussion held during that workshop

Variable group	Variable	PGECON advice	Methodology
		<p>preference over method B. MS using other than method A, should justify and periodically review their alternative.</p>	<p>focused on the definition and methodology of estimation of the unpaid labour both for the fleet and for the processing sector.</p> <p>Taking into account difficulties encountered by MS in estimating this variable (recognized by SGECA 10-03 and STECF EWG 11-03), a specific ToR of the workshop was to reply to the need of having clear 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. and, in general, in estimating labour costs people working only on shore should be excluded.</p> <p>On the basis of the results of this workshop and comparing different experiences by MSs (as reported in NPs and ARs), it is suggested that value of unpaid labour can be estimated through the following methodologies:</p> <p>A. FTE method (WS, Naples, 2009), that includes the following steps:</p> <ul style="list-style-type: none"> <li>• estimation of paid and unpaid FTE;</li> <li>• definition of an average remuneration per paid FTE (e.g. average wage by fleet segment/company, national average wage, minimum national wage, etc...);</li> <li>• calculation of imputed value of unpaid labour =: unpaid FTE * (average remuneration per paid FTE).</li> </ul> <p>B. SIZE method (Italian AR, UK AR); this one has to be preferred when no estimation of data about the number of not paid workers is available. The method is the following:</p> <ul style="list-style-type: none"> <li>• For vessels over 10m (12 m in the Med) imputed value of labour is zero because we assume all vessels pay the skipper / owner via the crew share system, or with a fixed wage.</li> <li>• For vessels between 8m and 10m (6m and 12 m in the Med) we assume that the top 25% (by revenues) of vessels pay skippers a crew share as part of the expenses of the business and that the lower 75% (by revenues) of vessels do not, but rather pay “owner’s drawings” from the profits. Therefore, for the lower 75% of vessels in this size category, there is a positive imputed value of labour. Considering that many smaller vessels operate on a part-time basis, it is not appropriate to assume an average full-time wage for all owner-skipper of these vessels. Instead, each MS should estimate the market value of a skipper’s full-time labour at national level (MKS, market value skipper). For vessels with profit less than or equal to MKS, we assume that 100% of profit is the imputed value of unpaid labour. If profit is over MKS, we assume it as the imputed value of labour. The remainder of the profits can be considered as return on investment or return on management skill.</li> </ul>

Variable group	Variable	PGECON advice	Methodology
			<ul style="list-style-type: none"> <li>For vessels less than 8m (6m in the Med), we assume that skipper's wages are not included in fishing expenses as part of the crew share, but in every case, are taken from the profits. Therefore, each vessel in this segment must have an imputed value of labour. For vessels with profit less than or equal to MKS, we assume that 100% of profit is the imputed value of unpaid labour. If profit is over MKS, we assume MKS as the imputed value of labour</li> </ul>
Energy costs	Energy costs	No comments	<b>1. Obtained directly from survey</b>  <b>2. Derived from other surveyed variables.</b> Fuel cost could be calculated by multiplying the fuel consumption by the average fuel price, if fuel consumption is available
Repair and maintenance costs	Repair and maintenance costs	No comments	<b>Obtained directly from survey</b>
Other operating costs	Variable costs	No comments	<b>Obtained directly from survey</b>
	Non-variable costs	No comments	<b>Obtained directly from survey</b>
	Lease/ rental payments for quota or other fishing rights	No comments	<b>1. Obtained directly from survey</b>  <b>2. Derived from other surveyed variables.</b> In case the trade (lease) information in terms of fishing rights is available from the official sources this information together with the average lease price might be used to calculate the variable. The average lease price would be collected through the survey.
Subsidies	Operating subsidies	Administrative sources, if available, are more precise and therefore are preferable.	<b>1. Obtained directly from survey</b>  <b>2. Obtained from administrative sources (e.g. paying Agency, Local authority).</b> The compilation of data on subsidies is based on the official lists provided by national and regional administrations. These lists should be further elaborate to consider only payments that can be classified as operating subsidies (see definition). Each payment has to associated with one vessel. This link allows to report operating subsidies in fleet segments.

Variable group	Variable	PGECON advice	Methodology
	Subsidies on investments	Administrative sources, if available, are more precise and therefore are preferable.	<p><b>1. Obtained directly from survey</b></p> <p><b>2. Obtained from administrative sources (e.g. paying Agency, Local authority).</b>  Investment subsidies refer to permanent cessation or to fleet modernization. They should not be included in income (PGECON 2013).  The compilation of data on subsidies is based on the official lists provided by national and regional administrations.  These lists should be further elaborate to consider only payments that can be classified as subsidies on investments (see definition).  Each payment has to associated with one vessel. This link allows to report operating subsidies in fleet segments.</p> <p>In case of subsidies for permanent cessation of fishing activities of those fleets which have become inactive during the year, it has to be decided if they can be classified in the segment of inactive vessel.</p>
Capital costs	Consumption of fixed capital	No comments	<p><b>1. Obtained directly from survey</b></p> <p><b>2. Derived from other surveyed variables.</b>  Consumption of fixed capital (Depreciation) represents the reduction in the value of the fixed assets used in production during the accounting period resulting from physical deterioration, normal obsolescence or normal accidental damage (EC study No. FISH/2005/03).  According to DCF legislation (2010/93/EU) depreciation should be calculated using the degressive depreciation scheme based on capital values estimated using replacement values (STECF 11-19, page 6) and included in the template model developed by EC study No. FISH/2005/03.</p> <p>The general assumptions proposed in the template model applies a degressive depreciation function and it assumes that engine is renovated every 10 years, electronics every 5 years, other equipment every 7 years and hull never. The share of each asset item in the total vessel price is 60% for hull, 20% for the engine and 10% for both electronics and other equipment. The rentals expected in future periods are discounting using a discount rate, which is the interest rate on long terms bond.</p> <p>However, as for the estimation of the Capital value based on the PIM method, the assumptions</p>

Variable group	Variable	PGECON advice	Methodology
			made in the template model represent only a general scheme that should be calibrated to the national situations. For the same reason the DCF Working Group Evaluation of data collection connected to Fishing Rights and Capital Costs (18 - 22 November, 2013, Gothenburg) suggested to use alternative approaches if accounting data (e.g. market value, book values) are available and can be easily derived by balance sheets.
Capital value	Value of physical capital	No comments	<p><b>1. Obtained directly from survey</b></p> <p><b>2. Derived from other surveyed variables.</b></p> <p>The application of the Perpetual Inventory Method (PIM) performed through a template model developed by EC study No. FISH/2005/03 proposes to determine the aggregate value of the physical capital in the current year by aggregation of active fleets by age or vintage classes. Once the value of the capital goods in a given benchmark year has been determined, the capital value of each subsequent year is calculated by adding investments of that year (gross capital formation), revaluing the existing stock and subtracting value of capital goods taken out of operation (Depreciation). As the aggregation is based on current prices, this method gives an estimate of the depreciation replacement capital value.</p> <p>However, the calculation of capital stock according to PIM is based on several assumptions, which are also closely linked to several variables such as investment, depreciation, capital cost, opportunity cost. The required input parameters and major assumptions are:</p> <ul style="list-style-type: none"> <li>• Depreciation rates</li> <li>• Share of capital components (hull, engine, electronics, other equipments) in total value</li> <li>• Life time of each asset</li> <li>• Price per unit</li> </ul> <p>The determination of the PCU has probably the highest impact on the results. For this reason, in order to make results more harmonized in the Workshop on calculating capital value using PIM and definition of DCF variables (Naples, 2011) it was suggested a hierarchical order of preference for possible prices/values of a ship:</p> <ol style="list-style-type: none"> <li>1. Price of new constructed vessels;</li> <li>2. 2nd hand prices or insurance values of the current year;</li> <li>3. Book value;</li> <li>4. Scrapping value;</li> <li>5. Other values (e.g. specific surveys to ask for an estimate of the current value of a vessel with certain characteristics in case previous indicators cannot be observed).</li> </ol> <p>The assumptions made in the study No. FISH/2005/03 represent in fact only a general scheme in order to provide a calculation tool. This general scheme should be changed and calibrated according to the specific needs of each country and to other empirical information, for example</p>

Variable group	Variable	PGECON advice	Methodology
			<p>collected from Company accounts, Statistical surveys, Expert advice, European System of Integrated Economic Accounts (ESA).</p> <p>Taking into account that the input parameters of the PIM method are difficult to be determined and could vary over time, the DCF Working Group on Evaluation of data collection connected to Fishing Rights and Capital Costs (18 - 22 November, 2013, Gothenburg) recommended to make use of alternative methods for the estimation of capital value of vessels when accounting data are available.</p> <p>However, STECF 10-09 also considered that the use of book value in order to estimate capital value and capital costs will limit the use of data to a fiscal accounting analysis more than to an economic valuation.</p>
	Value of quota and other fishing rights	No comments	<p><b>1. Obtained directly from survey</b></p> <p><b>2. Derived from other surveyed variables.</b></p> <p>Until now, capital valuation in fisheries focused primarily on the vessel and its equipment. Methodology for estimation of the capital value developed within the EC study No. FISH/2005/03 allows estimating the value of tangible assets. In case intangibles are part of the asset value, the suggested method requires separating them from the tangibles so that the determined value per capacity unit refers exclusively to physical assets. The EC study No. FISH/2005/03 proposed to apply the approach established by FADN, i.e. tradable intangibles should be valued at current market price (or a multi-year average), independently of the question whether they have or have not been acquired or whether they are or are not linked to specific tangible (e.g. vessel).</p> <p>However, attaching value to the intangible assets faces several conceptual as well as practical problems:</p> <ul style="list-style-type: none"> <li>- Ideally the value of assets should include all assets of the company including the intangible assets, especially the value of fishing rights. And tangible assets should be separated from intangibles. However, there should be common methodology to separate and value these assets.</li> <li>- Even when intangibles are freely tradable, observation of their prices in the market might be difficult because the number of transactions is small and the value might not be recorded.</li> <li>- When the intangibles are attached to vessel, direct observation of the price is impossible. The value has to be estimated.</li> </ul>

Variable group	Variable	PGECON advice	Methodology
			<ul style="list-style-type: none"> <li>- In many cases, the fishing companies have not yet acquired any intangibles, but simply hold the rights which they have received free of charge from the government, when they were introduced. In that case it is not clear if these rights should be valued as an asset, increasing substantially the total asset value of the company, or not.</li> </ul> <p>Results of the WS on valuation of fishing rights should be used for this purpose.</p> <p><i>Specific study / review of methods applied is needed.</i></p>
Investments	Investments in tangible assets, net	PGECON suggests to use variables directly from survey. In case PIM method is used investment should be estimated from PIM method in order to ensure consistency with other variables.	<p><b>1. Obtained directly from survey</b></p> <p><b>2. Estimated from PIM method (we are not sure if anyone is using it, but it should be available from there)</b></p>
Financial position	Long/ short Debt	No comments	<p><b>Obtained directly from survey.</b></p> <p>Balance sheets are considered the most reliable source of data for debts (MSs that derived the value of debts from questionnaires experienced a very poor quality of responses).</p> <p>Critical points:</p> <ul style="list-style-type: none"> <li>- how to split company values in case of more than vessel or in case of more activities</li> <li>- how to estimate this variable for SSF or in general when balance sheets are not available</li> </ul>
	Total assets	No comments	<p><b>Obtained directly from survey.</b></p> <p>Balance sheets are considered the most reliable source of data for total assets (MSs that derived the value of debts from questionnaires experienced a very poor quality of responses).</p> <p>Critical points:</p> <ul style="list-style-type: none"> <li>- how to split company values in case of more than vessel or in case of more activities</li> <li>- how to estimate this variable for SSF or in general when balance sheets are not available</li> </ul>
Employment	Engaged crew	No comments. As some MS might include unpaid labour in the definition of the engaged crew it has to be separated in the future	<b>Obtained directly from survey</b>

Variable group	Variable	PGECON advice	Methodology
		EUMAP.	
	Unpaid labour	New variable	<ol style="list-style-type: none"> <li>1. <b>Obtained directly from survey</b></li> <li>2. <b>Derived from other surveyed variables</b></li> </ol>
	FTE National	No comments	<p><b>Derived from other surveyed variables</b></p> <p>FTE definition: unit expressing the number of employees into full-time workers (usually defined in the national law).</p> <p>Appendix VI of the current regulation refers, in note 17 and 18 to the study “Calculation of labour including full-time equivalent (FTE) in fisheries”(FISH/2005/14, LEI WAGENINGENUR Coordinator, 2006), financed by EU in order to harmonise the definition and the estimation of employment variables under the data collection system.</p> <p>According to that study the estimation of the FTE should be done by using a threshold representing the total number of hours worked, on a standard and yearly basis, by a full-time worker in the fishery sector. Actually the study was based on the estimation of the engaged crew and of the FTE at métier level in order to trace the reality of labour input in fishing as closely as possible. This approach was mainly based on the fact that:</p> <ul style="list-style-type: none"> <li>• at the time of the study there were discussion, inside the STECF, about the possibilities to collect, under the revised DCF, economic data at métiers level;</li> <li>• “different fisheries may be characterised by different labour intensities and consequently by different levels of labour productivity. This is an important aspect of economic analysis;</li> <li>• using métiers in general improves the analytical understanding of the operation of the various fleets”.</li> </ul> <p>Actually the concept of metier has been not introduced in the collection of economic data but the general approach on the definition of FTE, in particular on the definition of the yearly threshold (time-based approach), has been largely applied under the DCF. According to the study, a person working more than the threshold (holding one or more jobs) is still counted as one FTE only. A person working less than the threshold represents a certain percentage of a FTE.</p> <p>FTE national should be calculated using a threshold defined according to the features of the fishery sector in each MSs.</p> <p>If the annual working hours per crew member exceed the reference level, the FTE equals 1 per</p>



Variable group	Variable	PGECON advice	Methodology
			<p>crew member.</p> <ul style="list-style-type: none"> <li>if annual working hours &gt; national threshold FTE national = 1</li> </ul> <p>If not, the FTE equals the ratio between the hours worked and the reference level.</p> <ul style="list-style-type: none"> <li>if annual working hours &lt; national threshold FTE national = <math>\frac{\text{annual working hours}}{\text{national threshold}}</math></li> </ul>
	Total hours worked per year	New variable	<ol style="list-style-type: none"> <li>Obtained directly from survey</li> <li>Derived from other surveyed variables</li> </ol> <p>Calculated based on effort, number of vessels and average crew number.</p>
Number of fishing enterprises/units	Number of fishing enterprises/units	No comments	Obtained directly from Fleet Register
Fuel consumption	Fuel consumption	PGECON could not define preferred method as it depends on the national context.	<ol style="list-style-type: none"> <li>Obtained directly from survey.</li> <li>Obtained from administrative sources (e.g. in case tax exemptions are used in the country).</li> <li>Derived from other surveyed variables.</li> </ol> <p>Regression models could be used by some MS (regression models using 'engine power', 'days at sea' and 'coefficient of fuel consumption by engine power')</p>

Table 2 Economic variables for the aquaculture sector

Variable group	Variable	PGECON advice	Methodology
Income	Gross sales per species	MS should avoid duplication of data collection.	1. <b>Obtained directly from survey</b> (from enterprise, or producer organisation). 2. <b>Derived from other surveyed variables.</b> Production data collected for EUROSTAT should be used. Calculated as weight of sales multiplied by unit price and summed to observation unit.
	Other income	No comments	<b>Obtained directly from survey</b>
Labour costs	Personnel costs	No comments	<b>Obtained directly from survey</b>
	Value of unpaid labour	No comments	<b>Derived from other surveyed variables</b> FTE method (WS, Naples, 2009), that includes the following steps: <ul style="list-style-type: none"> <li>• estimation of paid and unpaid FTE;</li> <li>• definition of an average remuneration per paid FTE (e.g. average wage by fleet segment/company, national average wage, minimum national wage, etc. ...);</li> <li>• calculation of imputed value of unpaid labour =: unpaid FTE * (average remuneration per paid FTE).</li> </ul>
Energy costs	Energy costs	No comments	<b>Obtained directly from survey</b>
Repair and maintenance costs	Repair and maintenance costs	No comments	<b>Obtained directly from survey</b>
Other operating costs	Other operating costs	No comments	<b>Obtained directly from survey</b>
Raw material costs	Livestock costs	No comments	<b>Obtained directly from survey</b> <b>Derived from other surveyed variables</b> Could be derived from number of stock and unit price of seed/juveniles, etc.
	Feed costs	No comments	<b>Obtained directly from survey</b> <b>Derived from other surveyed variables</b> Could be derived from feed consumption per unit of production and feed price.
Subsidies	Operating subsidies	Administrative sources, if available, are more precise and therefore are preferable.	<b>Obtained directly from survey</b> <b>Obtained from administrative sources (e.g. paying Agency, Local authority, grants, etc.)</b> The compilation of data on subsidies is based on the official lists provided by national and regional administrations. These lists should be further elaborate to consider only payments that can be classified as

Variable group	Variable	PGECON advice	Methodology
			operating subsidies (see definition). Each payment has to be associated with aquaculture enterprise. This link allows to report operating subsidies aquaculture.
	Subsidies on investments	Administrative sources, if available, are more precise and therefore are preferable.	<b>Obtained directly from survey.</b> <b>Obtained from administrative sources (e.g. paying Agency, Local authority, grants, etc.)</b> Investment subsidies refer to modernization of existing and construction of new facilities (see more in definitions). The compilation of data on subsidies is based on the official lists provided by national and regional administrations. These lists should be further elaborate to consider only payments that can be classified as subsidies on investments (see definition). Each payment has to be associated with aquaculture enterprise. This link allows to report operating subsidies by aquaculture segment.
<b>Capital costs</b>	Consumption of fixed capital	No comments	<b>Obtained directly from survey</b>
<b>Capital value</b>	Total value of assets	No comments	<b>Obtained directly from survey</b>
<b>Financial results</b>	Financial income	No comments	<b>Obtained directly from survey</b>
	Financial expenditures	No comments	<b>Obtained directly from survey</b>
<b>Investments</b>	Investments in tangible assets, net	No comments	<b>Obtained directly from survey</b>
<b>Debt</b>	Debt	No comments	<b>Obtained directly from survey</b>
<b>Raw material weight</b>	Livestock used	No comments	<b>Obtained directly from survey</b> <b>Derived from other surveyed variables</b> Could be derived from total production weight/ numbers and estimates of mortalities.
	Fish Feed used	No comments	<b>Obtained directly from survey</b> <b>Derived from other surveyed variables</b> Could be derived from technical guides and total livestock number.
<b>Weight of sales</b>	Weight of sales per species	No comments	<b>Obtained directly from production survey</b>
<b>Employment</b>	Number of persons employed	No comments	<b>Obtained directly from survey</b>

Variable group	Variable	PGECON advice	Methodology
	Unpaid labour	New variable	<b>Obtained directly from survey</b> <b>Derived from other surveyed variables</b>
	FTE National	No comments	<b>Derived from other surveyed variables</b> FTE national should be calculated using a threshold defined according to the features of the sector in each MSs. If the annual working hours per employee exceed the reference level, the FTE equals 1 per employee. <ul style="list-style-type: none"> <li>if annual working hours &gt; national threshold FTE national = 1</li> </ul> If not, the FTE equals the ratio between the hours worked and the reference level. <ul style="list-style-type: none"> <li>if annual working hours &lt; national threshold  <math display="block">\text{FTE national} = \frac{\text{annual working hours}}{\text{national threshold}}</math> </li> </ul>
	Total hours worked per year	New variable	<b>Obtained directly from survey</b> <b>Derived from other surveyed variables</b> Could be estimated from days/weeks/months worked, or other variables
<b>Number of enterprises</b>	Number of enterprises (by category on the number of persons employed)	No comments	<b>Obtained directly from Business Register or other Administrative sources</b> (license list if exists)

Table 3 Economic variables for fish processing sector

Variable group	Variable	PGECON advice	Methodology
Income	Turnover	Two surveys have to be used for different parts of population	<p>For the part of population covered by SBS</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from SBS survey.</b></li> </ul> <p>For the part of population not covered by SBS</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey;</b></li> <li>• <b>obtained directly from administrative sources</b></li> </ul>
	Other income	Two surveys have to be used for different parts of population	<p>For the part of population covered by SBS</p> <ul style="list-style-type: none"> <li>• <b>derived from other SBS variables.</b> Turnover in SBS includes turnover from principal activity, other incomes and subsidies. Therefore, other income should be calculated as following: <p style="margin-left: 40px;">Other income = Turnover – turnover from principal activity – subsidies.</p> <p>Other income also includes financial income, which is a separate variable in DCF. Therefore, a method for disseminating other income from financial income should be defined.</p> <ul style="list-style-type: none"> <li>• <b>Directly obtained from additional DCF survey.</b></li> </ul> <p>For the part of population not covered by SBS</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey</b></li> </ul> </li></ul>
Personnel Costs	Personnel costs	Two surveys have to be used for different parts of population.	<p>For the part of population covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from SBS survey.</b></li> </ul> <p>For the part of population not covered by SBS:</p> <ol style="list-style-type: none"> <li>1. <b>directly obtained from DCF survey</b></li> <li>2. Derived from other surveyed variables (e.g. costs structure).</li> </ol>
	Value of unpaid labor	No comments	For the part of population covered by SBS the unpaid labour costs are equal to 0 as it is legally binding to

Variable group	Variable	PGECON advice	Methodology
			<p>employ all persons working in the bigger enterprises.</p> <p>For the part of the population not covered by SBS, unpaid labour costs would be <b>derived from other surveyed variables</b>.</p> <p>FTE method (WS, Naples, 2009), includes the following steps:</p> <ul style="list-style-type: none"> <li>• estimation of paid and unpaid FTE;</li> <li>• definition of an average remuneration per paid FTE (e.g. average wage by company, national average wage, minimum national wage, etc...);</li> <li>• calculation of imputed value of unpaid labour =: unpaid FTE * (average remuneration per paid FTE).</li> <li>• Other methods based on number of enterprises?</li> </ul>
	Payment for external agency workers (optional)	No comments	<p>For the part of population covered by SBS <b>directly obtained from SBS survey</b> (optional).</p> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> </ul>
Energy costs	Energy costs		<p>For the part of population covered by SBS, <b>directly obtained from SBS survey</b> (optional).</p> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> </ul>
Raw material costs	Purchase of fish and other raw material for production	SBS data should be preferred, but in case dissemination methods are not possible, data from surveys should be used for all processing enterprises.	<p>For the part of population covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from SBS survey.</b></li> </ul> <p>However, these costs in SBS are combined under “Total purchases of goods and services”, including financial and extraordinary costs. Therefore, a dissemination method should be applied for calculating raw material and other operating costs:</p> <p>(Raw material + Other operational costs) = Total purchases of goods and services – Financial costs – extraordinary costs; Because all of these Variables are also included in DCF, dissemination is very problematic.</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from additional DCF survey</b></li> </ul>
Other operating costs	Other operational costs		

Variable group	Variable	PGECON advice	Methodology
			<p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> </ul>
Subsidies	Operating subsidies	<p>Subsidies could be derived from SBS by disseminating Turnover, however because of a complex structure of SBS turnover, data from national and regional administrations for the whole processing sector, should be used, in preference to direct survey. This in turn will help to derive turnover and other income more precisely.</p>	<p>For the part of population covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from SBS survey.</b> However, data is aggregated under Turnover, complete with turnover from principal activities, other income, and financial income. Therefore, it should be disseminated.</li> <li>• <b>directly obtained from additional DCF survey ;</b></li> <li>• <b>obtained directly from administrative sources</b></li> </ul> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> <li>• <b>obtained directly from administrative sources</b></li> </ul>
	Subsidies on investments		
Capital costs	Consumption of fixed capital	No comment	<p>There is no data on capital costs or capital value in SBS.</p> <p>For all processing enterprises capital cost and capital value could be obtained:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey;</b></li> <li>• <b>derived from other surveyed variables or from PIM calculations.</b></li> <li>• <b>By calculating capital value and capital costs by PIM.</b></li> </ul>
Capital value	Total value of assets		
Financial results	Financial income	Two surveys have to be used for different parts of population.	<p>For the part of population covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from SBS survey.</b> however financial income is combined under Turnover. Therefore to get data on financial income, a method of dissemination should be used: Turnover – Turnover from main activity – subsidies – other income. However, dividing financial and other income could be a problem.</li> <li>• <b>directly obtained from additional DCF survey ;</b></li> </ul>

Variable group	Variable	PGECON advice	Methodology
			<ul style="list-style-type: none"> <li>derived from other surveyed variables.</li> </ul> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>directly obtained from DCF survey,</li> <li>derived from other surveyed variables.</li> </ul>
	Financial expenditures		<p>For the part of population covered by SBS:</p> <ul style="list-style-type: none"> <li>directly obtained from SBS survey. However financial expenditures in SBS is under Total purchases of goods and services, which also includes raw material, other operational costs and extraordinary costs, therefore a method for discriminating financial expenditures should be devised;</li> <li>directly obtained from additional DCF survey</li> <li>derived from other surveyed variables.</li> </ul> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>directly obtained from DCF survey,</li> <li>derived from other surveyed variables.</li> </ul>
Investments	Net Investments	Two surveys have to be used for different parts of population.	<p>For the part of population covered by SBS:</p> <ul style="list-style-type: none"> <li>directly obtained from SBS survey. By subtracting sales of tangible investments goods from Gross investments in tangible goods</li> <li>directly obtained from additional DCF survey.</li> </ul> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>directly obtained from DCF survey,</li> <li>derived from other surveyed variables.</li> </ul>
Debt	Debt	No data coverage on SBS	<p>For all processing sector enterprises Debt could be:</p> <ul style="list-style-type: none"> <li>directly obtained from additional DCF survey.</li> <li>derived from other surveyed variables.</li> </ul>
Employment	Number of persons employed		<p>For the part of population covered by SBS:</p> <ul style="list-style-type: none"> <li>directly obtained from SBS survey. However, SBS are not discriminated according to the</li> </ul>



Variable group	Variable	PGECON advice	Methodology
			<p>gender.</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>obtained directly from administrative sources</b></li> </ul> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> </ul>
	Unpaid labour		<p>For all processing sector enterprises unpaid labour could be:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> </ul>
	FTE National		<p>For the part of population covered by SBS: <b>directly obtained from SBS survey.</b></p> <p><b>FTE for all processing sector:</b> FTE definition: unit expressing the total number of employees into the equivalent number of full-time workers (usually defined in the national law).</p> <p>Appendix VI of the current regulation refers, in note 17 and 18 to the study “Calculation of labour including full-time equivalent (FTE) in fisheries”(FISH/2005/14, LEIWAGENINGENUR Coordinator, 2006), financed by EU in order to harmonise the definition and the estimation of employment variables under the data collection system.</p> <p>General approach on the definition of FTE, in particular on the definition of the yearly threshold (time-based approach), has been largely applied under the DCF. According to the study, a person working more than the threshold (holding one or more jobs) is still counted as one FTE only. A person working less than the threshold represents a certain percentage of a FTE.</p> <p>FTE national should be calculated using a threshold defined according to the features of the processing sector in each MSs.</p> <p>If the annual working hours per person exceed the reference level, the FTE equals 1 per crew member.</p> <ul style="list-style-type: none"> <li>• if annual working hours &gt; national threshold      FTE national = 1</li> </ul> <p>If not, the FTE equals the ratio between the hours worked and the reference level.</p> <ul style="list-style-type: none"> <li>• if annual working hours &lt; national threshold      FTE national = <math>\frac{\text{annual working hours}}{\text{national threshold}}</math></li> </ul>
	Number of hours worked by employees		For the part of population covered by SBS:

Variable group	Variable	PGECON advice	Methodology
	and unpaid workers		<ul style="list-style-type: none"> <li>• <b>directly obtained from SBS survey.</b> However, SBS houses data of employed work force only, and it does not include unpaid labor. Therefore, additional estimation of number of hours worked by unpaid workers should be calculated.</li> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> </ul> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> </ul>
Number of enterprises	Number of enterprises (1)	No comment	<p>For the part of population covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from SBS survey.</b></li> </ul> <p>For the part of population not covered by SBS:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> <li>• <b>Through other governmental or administrative organizations</b></li> </ul>
weight of raw material (OPTIONAL)			<p>For all enterprises:</p> <ul style="list-style-type: none"> <li>• <b>directly obtained from DCF survey,</b></li> <li>• <b>derived from other surveyed variables.</b></li> </ul>

## Annex 1 – Presentation of the preliminary draft, PGECON 2016

17/06/2016

Methodologies for the socio-economic data described  
in EU MAP (Summer STECF Plenary)

Preliminary input to be discussed in the 2016 DCF  
expert sub-group on economic issues (Planning Group  
in Economic Issues)

Sabatella Evelina Carmen

30 May 2016

### Tasks to be completed

- For each variable, a methodology should be proposed. This might be an already agreed methodology (for certain cases) or, in the case of several possible methodologies, the expert should propose only one methodology, based on its simplicity, relevance, accuracy and consistency. For those variables where no methodology exists, the expert should propose a methodology, keeping consistency with international and EU definitions and statistics
- PGECON (preliminary discussion) → Final report → STECF plenary

17/06/2016

## How

- The basic principle followed in this work has been the compilation of all the methodologies already suggested in:
- previous STECF reports,
- PGECON reports
- in DCF workshops.

In addition, NPs and ARs have been scrutinized to look for “best practices” already applied by some MS for some variables

## Preliminary results

- The aim of this document is to present a set of methodologies that will help in “harmonizing sampling strategies”.
- This concept was already discussed by STECF 11-19 and STECF interpreted the phrase “harmonization of sampling strategies” to mean: **making the sampling strategies such that the results of the surveys are comparable**

17/06/2016

SURVEY	AD HOC METHODOLOGIES
<ul style="list-style-type: none"> <li>• Other income</li> <li>• Energy costs</li> <li>• Repair and maintenance costs</li> <li>• Variable costs</li> <li>• Non-variable costs</li> <li>• Lease/rental payments for quota or other fishing rights</li> <li>• Income from leasing out quota or other fishing rights</li> <li>• Investments in tangible assets, net</li> <li>• Engaged crew</li> <li>• Total hours worked per year</li> </ul>	<ul style="list-style-type: none"> <li>• Personnel costs</li> <li>• Value of unpaid labour</li> <li>• Operating subsidies</li> <li>• Subsidies on investments</li> <li>• Consumption of fixed capital</li> <li>• Value of physical capital</li> <li>• Value of quota and other fishing rights</li> <li>• Long/short Debt</li> <li>• Total assets</li> <li>• Unpaid labour</li> <li>• FTE National</li> <li>• Number of fishing enterprises/units</li> </ul>
<p><b>«transversal variables»</b></p> <p>Production value per species Effort Fleet Gross value of landings</p>	

## Preliminary results

- Most of the variables have to be collected through a survey approach. In this case, **it is considered not appropriate to define a unique statistical method**. In fact, as discussed in the workshop in the DCF WS on statistical issue (Helsinki, 2013) and in the STECF SGECA 2010, MS try to choose the best data collection approach available and most suitable for the country specific needs and conditions

17/06/2016

## Preliminary results

- A part from variables that are estimated through specific surveys implemented by MS within the DCF, there is another set of variables that are usually estimated through **indirect surveys or that are derived from other variables** (such as for instance FTE).
- For these variables, the document present already available approaches. The PGECON is asked to review them and try to find an agreement on the most appropriate ones.

## Table for fleet economic variables: [see document](#)

Table 6A. List of Economic variables for the fleet

Variable group	Variable	Methodology: preliminary proposal for discussion at PGECON
Income	Gross value of landings	The data source is the official national statistics on landings. Gross value of landings has to be available for each vessel in the survey used to estimate economic data.
	Income from licensing, out-quotas or other fishing rights	Survey
	Other income	Survey
Labour costs	Personnel costs	Two possible methodologies: 1. Survey 2. Indirect survey In several fisheries crew members are remunerated through crew share systems, rather than fixed salaries. In this case, personnel costs can be calculated as % of revenues, or as % of revenues - costs. To correctly apply this method, it is necessary to define, for each fleet segment: <ul style="list-style-type: none"> <li>what is the approach used to calculate the share: as percentage on total revenues or as percentage of revenues - costs</li> <li>what are the costs actually included to calculate the share</li> <li>what is the percentage that goes to the crew</li> </ul>
	Value of unpaid labour	The estimation of the imputed value of unpaid labour represented one of the issues discussed during the Workshop on calculating capital value using FIM and definitions of DCF variables that was held in Napoli, Italy, from 13th to 17th June 2011. The discussion held during that workshop focused on the definition and methodology of estimation of the unpaid labour costs for the fleet and for the processing sector. Taking into account difficulties encountered by MS in estimating this variable (recognized by GEC A 10-03 and STECF EWG 11-03), a specific ToR of the workshop was to reply to the need of having clear 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: and, in general, in estimating labour costs people working only on shore should be excluded. On the basis of the results of this workshop and comparing different experiences by MS (as reported in NVs and ARs), it is suggested that value of unpaid labour costs be estimated through the following methodologies: <ul style="list-style-type: none"> <li>A. FTE method (VG, Naple, 2009) that includes the following steps: <ul style="list-style-type: none"> <li>estimation of paid and unpaid FTE;</li> <li>definition of an average remuneration per paid FTE (e.g. average wage by fleet segment/company, national average wage, minimum national wage, etc...);</li> <li>calculation of imputed value of unpaid labour = unpaid FTE * (average remuneration per paid FTE).</li> </ul> </li> <li>B. SEE method (Italian AP, UK AR); this one has to be preferred when no estimation of data about the number of net-paid workers is available. The method is the following:</li> </ul>

17/06/2016

## Critical issues

- the EUMAP for the period 2017-2020 is still under discussion. Therefore, the final list of economic and social variables is not yet available.
- Estimation of capital value and capital costs. The estimation of these variables is crucial for calculation of profitability indicators which have important impact on management decisions.

?PIM versus balance sheets?

## Data collection methods and estimation procedures

There are mainly three different approaches in the data collection (DCF WS on statistical issue, Helsinki, 2013):

- **census** based data collection (for instance in Lithuania, Latvia, Poland, Romania, Slovenia);
- **statistical sample survey**. Probability Proportional to Size (PPS) sampling, and random sampling are used in these cases (for instance Italy, France, Ireland, Greece);
- **regression estimation** using sample data and registry data (for instance Finland, Germany).

17/06/2016

## Guidelines on statistical sampling

- STECF 09-05 considered that MS should include in their National Programs a “methodological report” in order to obtain methodology descriptions of a comparable standard among Member States.

Ok in NWP template:

*Where survey work is being undertaken, concise details should be given about:*

- *Data sources*
- *Type of data collection*
- *Target and frame population*
- *Sampling frame and allocation scheme*
- *Estimation procedures*
- *Data quality*

## Guidelines on statistical sampling

- STECF 10-09 provided [guidelines to illustrate statistical techniques in case of simple and stratified random sampling](#). These guidelines provide information and reference for the following steps in the survey design and implementation:

- Simple random sampling
  - Stratified random sampling
- The estimation of sample size and allocation across strata
  - Estimation of parameters
  - Sources of error in surveys
  - Effects of non-response



17/06/2016

## Guidelines on statistical sampling

- The issue of providing MS with statistical guidelines was also addressed by the DCF WS on statistical issue (Helsinki, 2013).
- LM 2014 endorsed the conclusion from this WS stating that it would be very useful in improvement of future data collection and WS to prepare a [handbook on guidelines of best practices in sampling design and estimation methods](#). The aim of the handbook should be to give clear guidance how to technically implement the principles in the data processing and analysis in individual MS.

## Specific issues on aquaculture

- The WS on aquaculture data collection (Gdynia, 2015) followed the request by the Planning Group on Economic Issues (PGECON) to provide technical advice to improve the methods for aquaculture data collection and harmonize data collection methods across MS: [MAIN RESULTS](#)
- In this preliminary draft a table for the methodology of each economic variable is not included. PGECON is kindly requested to check if the approach used for the fleet economic variables could be repeated for the aquaculture as well.

17/06/2016

### Specific issues on processing sector

- DCF RECAST: to avoid duplication with other legal provisions.
- STECF 16-07 suggested that work plans shall clearly identify the variables and the part of the population covered through Regulation (EC) No 295/2008 concerning structural business statistics and the variables and the part of the population that have to be covered through additional data collection methods
- Present version of the EUMAP does not include this provision. In addition, it seems that a final agreement has not been reached even in the basic regulation (the so called DCF RECAST).
- Under this ambiguity, it is difficult to draft a document with methodologies for each variable. Legal requirements for MS should be clearly identified.