منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Organización de las Naciones Unidas para la Agricultura y la Alimentación

COORDINATING WORKING PARTY ON FISHERY STATISTICS

Intersessional Aquaculture and Fishery Subject Groups Meetings

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CWP Handbook Section 5: Socio-economic Statistics

Author: Secretariat

Document Review			
Version	**By:**	**Amendment:**	**Date:**
1	CWP 24th Session	Original	2013/02/07
2	CWP Secretariat	Recompile section 4.4 and 5 of CWP HB and add notes on revision needs	2017/02/14
2-1	Eurostat	Revision of sections 5.2.1 and 5.2.2	2017/04/29
2-2	CWP Secretariat	Add Section 5.1 and 5.3	2017/05/05
3	OECD, JRC and GFCM	Commented document to be discussed at the CWP Intersessional Meeting (2017)	2017/06/15

Notes on the revision needs:

Structure for the Socio-economic Statistics of the CWP Handbook – Section 5 (proposal)

5. SOCIO-ECONOMIC STATISTICS

CR Comment: The content such it is now is only fisheries related. The scope should be enlarged to aquaculture as well. IMO there should be also reference to the tight relationship between the two (sub-)sectors.
Furthermore I believe this introduction lacks a bit of elaboration about the relevance of these type of data for fisheries management, namely its importance for the definition of the fisheries management plans and on the implementation of the ecosystem approach.

5.1 Key Economic variables and indicators

5.1.1 Fisheries

5.12 Aquaculture

CR Comment: This section is by far more developed for fisheries than for aquaculture. I wonder much of the fisheries would be applicable to aquaculture. In the EU DCF, the variables to be collected are very much comparable. As I understand this two section have been developed by two different sub groups in different moments.
I believe we should reflect how much the aquaculture can be enlarged, without losing the perspective that this handbook should reflect more than what is being done in the EU.
The data programs carried out by the CWP agencies can be identified, briefly described and if relevant compared to the others, and links to the relevant webpages/material included.

5.2 Key Social variables and indicators

5.2.1 Fisheries

5.2.2 Aquaculture

CR Comment: For both aquaculture and fisheries there are relatively well developed contents; however the fishers data collected through Fishtat FM (data also used by OECD) has further categories of fishers employment (coastal and deep sea, full time and part time and gender), which are not described in the section and are of relevance. A revision to ensure a consistent way of presenting the contents in both may be important. Also some important references could be sought to include; OECD and ILO references for example.

The data programs carried out by the CWP agencies can be identified, briefly described and if relevant compared to the others, and links to the relevant webpages/material included.

Note on the Inclusion/non-inclusion of the Fish Processing Industry.

While there is a clear mention to the fish processing sector as an additional point to be added into the employment section, the general introduction of the handbook clearly state that the fish processing is not part integrand of this handbook. Besides, the last general structure of the handbook agreed by the CWP members during its 23rd Session, organizes the contents of the handbook according to these two main activities - fisheries and aquaculture - without making any reference to the fish industry. Thus including a subsection to deal with the employment in the fish processing industry may result extemporaneous. However, this is also an issue to be further discussed.

Commented [CF1]: Actually OECD is definitely interested in looking at the processing sector for value chain analysis. OECD currently collects employment data also for the processing sector.

Commented [CR2R1]: The introduction to the CWP Handbook, in its version approved in the CWP 24 clearly states that Processing industry is not part of the scope of the handbook. Bring to the discussion the relevance of its inclusion?

Excerpt of the draft revised CWP Handbook (version from 2013/02/07)

Section 5 plus section 4. 4 (Socio-economic aspects of aquaculture)

5. SOCIO-ECONOMIC STATISTICS

The Code of Conduct for Responsible Fisheries (FAO, 1995) stresses that "in order to ensure the sustainable management of fisheries and to enable social and economic objectives to be achieved, sufficient knowledge of social, economic and institutional factors should be developed through data gathering, analysis and research" (FAO, 1995, p. 12).

In general fisheries administrators have given greater attention to the collection of production data and biological information, while the acquisition of socio-economic data has not yet received the same level of effort. This is partly due to the very diverse and complex nature of the fishing sector: Each fishery has different characteristics which have to be taken into account when collecting data and designing management plans. Nevertheless, socio-economic information is of critical importance in fisheries management and for policy definitions.

Several socio-economic data collection programs are in place amongst the CWP agencies. They differ in coverage and, ~~segmentation and~~ detail depending on the objectives of the data collection. This chapter of the handbook does not pretend to set CWP standards for the collection of socio-economic data which so far are inexistent and have not yet been discussed among the relevant actors. Instead, it is meant to identify a minimum set of core variables for which data collection can be implemented at regional and/or country level and identify current practices of socio-economic data collection among the international organizations represented in the CWP. ~~Based on agreed common concepts, a minimum set of core variables should be identified for which data collection can be implemented at regional and/or country level.~~

5.1 Relevance of Socio-economic Statistics

Fish for human consumption (and other purposes) is mostly provided by the fishing fleet and aquaculture production companies. Socio-economic statistics on capture fisheries and aquaculture enterprises are crucial for monitoring the economic performance of these two sectors. As such, socio-economic statistics are required to assess the economic performance of fisheries and aquaculture sectors together with the number of people that are engaged in the production activities and their earnings. Such information is required in discussions on the management and the economic contributions to society from fisheries and aquaculture. It influences decisions on fisheries management plans and the implementation of measures aimed at protecting marine ecosystems.

Commented [MR3]: I agree with the other comment. This reads like an excuse more than a reason.

Commented [n4]: Unclear what this refers to. Clarification may be required

Commented [n5]: As it stands now, this chapter does not meet this main objective.
The last section seems very incomplete.
It would be very useful to have an outline of each data collection scheme currently implemented by the various CWP organisations, and comparison between them to help identify strengths and weakness, good practices, etc.

Commented [FO6]: Insert cross-link to fleet chapter

Commented [FO7]: Insert cross-link to AQ chapter.

Socio-economic statistics refer to fishing enterprises or fishing vessels (the latter are often grouped in homogeneous, mutually exclusive, groups of vessels, often named fleet segment [1]), and aquaculture enterprises. Depending on the policy goal, whether an overall sectorial performance assessment, or a more detailed analysis, based on fleet segments or aquaculture farming system or environment, the socio-economic statistics should be linked to the catch (including effort) and respectively aquaculture production statistics. Frequently the link between the two datasets represents difficulties due to the different population (in fisheries: enterprises vs vessels, and in aquaculture, company vs production facilities), concepts (aquaculture and catches) and geographical breakdown (catches) used for the collection of these data. For example, capture production statistics are usually collected by flag state and not segmented by fleet classes or fishing gears. Aquaculture production statistics are mostly collected from the production facilities, not enterprises, and defined as "farm-gate" production. The definition of concepts follows general UN SC standards.

Commented [n8]: Unclear what this refers to. Define/clarification may be required

Commented [n9]: Unclear what this refers to. clarify

Commented [CR10R9]: I believe now it's clearer

Commented [MR11]: Why? This depends on the particular socio-economic statistic and the relevant policy objective.

Commented [CR12R11]: Ok. An additional sentence added.

Commented [n13]: Does this relate to the entire handbook or just aquaculture concepts? Either way, a link or reference would be useful

Commented [FO14]: Do they? Maybe this should be verified.

Commented [CR15R14]: I don't see the particular relevance of this sentence here. This should apply to the entire handbook, as its stated in the introduction. When specific classifications or concept are sought then a clear reference to the classification must be added.

5.2 Key Economic variables and indicators

5.2.1 Fisheries

Several approaches can be identified when defining the population and observation unit for collection of economic data and estimation of economic variables and indicators. The reference population can either be the fishing companies or the vessel economic variables to be collected can be

The basic variables that are to be collected include **total income** and **total costs** for the fishing operations and running the fishing enterprise. This allows derivation of the **economic profitability** of the fishing sector which is judged from information on the **net income** (net income= total income – total costs) of the fishing sector.

~~Two additional variables are used to judge the economic~~ state ~~of fishing activities: the **capital value**, which is represented by the fleet and the investments that are made in the fleets, and the **value of physical capital**, which include two key elements: the value of the fleet and gears and the value of quota and other fishing rights. The **net investments** in physical capital are purchase and sale of assets during the year.~~

Commented [AC16]: "state" or "impact" are preferable in this context

Commented [n17]: ...the 'fishing' what? Fishery, vessel, fleet, etc.?

Commented [n18]: The physical capital refers mainly to the vessel, equipment and fishing gears; while quota and other fishing rights are considered immaterial (intangible) capital.
It is important to clarify how these variables are defined and estimated

Commented [n19]: Are investments in physical capital and in quota or fishing rights considered together?

Total income includes data on the following variables:

→ **Gross value of landings**: gross value of the landings is normally collected together with landing statistics (e.g. from fish auctions or from sales slips). In order to establish the

[1] The concept of Fleet Segment (Fleet segment: group of vessels with the same length class (LOA, length overall) and predominant fishing gear during the year) was introduced by the EU Fisheries Data Collection Framework in the 2008 EU Regulation and since then has been adopted for other Data Collection Programs, such as the GFCM DCFR.

link to the catch statistics (see section B) these data should preferably be broken down by the same variables as the catch data (species, area, year, fleet segment, etc.).

→ **Income from leasing out quota** or **other fishing rights** where ITQ or similar systems have established fishing rights that are privately owned;

→ **Direct subsidies**: including direct payments (e.g. compensation for stopping fishing, refunds of fuel duty or similar lump sum compensation payments), excluding social benefit payments and indirect subsidies (e.g. reduced duty on inputs such as fuel, investment subsidies). Direct subsidies are discussed by OECD Financial Support to Fisheries: Implications for Sustainable Development (OECD, 2006) and a summary is presented as a background document. There is no agreed CWP standard for the calculation of these subsidies.

→ **other income**, including other income from use of the vessel (e.g. recreational fishing, tourism, oil rig duty, etc.) also insurance payments for damage/loss of gear/vessel.

Cost data can be~~are~~ obtained from the financial records of the fishing enterprises and these data are mostly difficult to obtain. Even when such data are available, they are often protected by various access restrictions based on confidentiality needs (see section on **data confidentiality**.). Alternative data collection methods, such as surveys, can also be sought to overcome the problems of data confidentiality. The CWP has not defined standards for this type of data.

Total costs include:

→ **Personnel costs** - Paid labour of the crew (including social security costs); and the estimated value of unpaid labour. Often labour is paid by a share of the net revenue of the landings. (This variable is also relevant under the 'SOCIAL statistics')

→ **Operating costs** for fishing including energy, fishing gears, repair and maintenance of vessel and gear, lease and rental of fishing quotas, fuel costs, cost of fishing licenses, costs of other consumables, etc.;

→ **Capital costs** for the vessel annual depreciation.

Two additional variables are used to judge the economic performance of fishing sector:

→ the **capital value**, which is represented by the fleet and the investments that are made in the fleets, and the **value of physical capital**, which include two key elements: the value of the fleet and gears and the value of quota and other fishing rights. The **net investments** in physical capital are purchase and sale of assets during the year.

Examples of economic indicators that have proven to be useful in management discussion in Europe include

→ Net Income = Total income – total costs

→ Gross Value Added (GVA) = Income from landings + other income – energy costs – repair costs – other variable costs – non variable costs.

Commented [MR20]: OECD work has since been updated and new data and a report have been released. The OECD FSE Manual is the new reference, but this still needs improving to meet a higher statistical standard.

Commented [n21]: Can be obtained! These data can also be obtained by other methods, such as surveys.

Commented [n22]: Section not found. Is it in another chapter of the handbook?

Commented [CF23]: Similar data seem to be available for EU countries in the Data Collection Framework (DCF) at https://stecf.jrc.ec.europa.eu/dd/fleet/graphs (Fleet Economic Performance - Economic Indicators)

Commented [AC24]: Both fixed and variable costs should be considered

Commented [CR25R24]:

Commented [n26]: Estimated value of unpaid labour considered for aquaculture but not fisheries. Why?

Commented [MR27]: This is always the most difficult part! Two methods—alternative wage or residual profits—are both highly problematic.

Commented [CR28R27]: Shall these two methods be quoted here? Bibliography reference to support?

Commented [CF29]: I think this variable is also relevant under the 'SOCIAL statistics'

Commented [n30]: How are investments considered here? Are there clear definitions of repair and maintenance and investments available that clearly differentiate both variables?

Commented [n31]: It is not clear whether lease and rental of fishing quotas is an operating cost. They could well also be a capital cost.
In any case, they are very difficult to obtain/estimate, and within a country they should in most cases be equal to the income from lease and rental of fishing quota, i.e. balance out.

Commented [n32]: The physical capital refers mainly to the vessel, equipment and fishing gears; while quota and other fishing rights are considered immaterial (intangible) capital.
It is important to clarify how these variables are defined and estimated

Commented [n33]: Are investments in physical capital and in quota or fishing rights considered together?

Commented [n34]: It seems to be the same indicator that is defined as net income some lines above.

Commented [CR35R34]: ok

Commented [MR36]: Producer surplus is a more economically pure measure when welfare is the objective.

Commented [CR37R36]: Can you please formulate the indicator?

→ Gross Profit (GRP) = Income from landings + other income – crew costs – unpaid labour - energy costs – repair and maintenance costs – other variable costs – non variable costs

[Note that the basic economic variables are usually recorded in national currencies and where comparisons between countries are required these data need to be converted into a common currency, see Currencies and Funds.]

Bibliography
IREPA Onlus Coordinator, 2006. Evaluation of the capital value, investments and capital costs in the fisheries sector Study No FISH/2005/03.)

…

5.2.2 Aquaculture

Similar to the capture fisheries sector, the most important variables to monitor the economic performance and sustainability of the aquaculture sector are based on **total income** and **total production costs** of the aquaculture enterprise. Again, the economic profitability of the sector is derived from information on the **net income** (=total income – total costs).

Data are obtained from the accounts of aquaculture enterprises. In absence of a targeted census, Structural Business Statistics surveys may provide an opportunity to collect such information extensively but such surveys only occur with a certain, rather long interval. When relying on cross-sectoral surveys to obtain socio-economic information, it is necessary to establish some way to link the data to the aquaculture production statistics and to monitor changes of key indicators between survey years.

Total income includes data on the following variables:

- → **Gross sales of the aquaculture production**; these data should be broken down by species, cultivation method, area, year.
- → **Direct subsidies**; including direct payments; excluding social benefit payments and indirect subsidies e.g. reduced duty on inputs such as fuel or investment subsidies.
- → **Other income** (e.g. recreational fishing, tourism, etc. also insurance payments).

Total costs include:

- → Personnel **costs** - Paid labour (including social security costs) and estimated value of unpaid labour. (This variable is also relevant under the 'SOCIAL statistics')
- → **Operating costs** - energy, seed, feed, repair and maintenance, packaging costs, etc.
- → **Capital costs** (consumption of fixed capital).

For management and sustainable development purposes, it is also important to collect information on the input into aquaculture production, i.e. the weight and value of the raw material. Key inputs include (i) seed and broodstock, (ii) water (iii) feed and fertilizer, (iv) antibacterials/antibiotics and (v) energy.

Moreover, information on **investment** is essential for the sustainable development and effective management of the aquaculture sector, especially for small scale holdings. Such information could be available within the government, through administrative data sources. Although no standard concepts and procedure exist for the aquaculture sector, the CWP

Commented [n38]: SBS collects data on industry (including the fish processing industry), construction, trade and services in the EU.
It does not collect data on the fisheries and aquaculture sectors.

Commented [MR39]: OECD does not currently cover this but it is likely that our support database will expand to include this in the coming years

Commented [n40]: Referred to as **Personnel costs** in the section for fisheries

Commented [MR41]: This is always the most difficult part! Two methods—alternative wage or residual profits—are both highly problematic.

Commented [CR42R41]: Can we suggest further bibliography and give examples on the application of the two methods?

Commented [n43]: **Estimated value of unpaid labour** considered here but not for fisheries. Why?

Commented [CF44]: I think this variable is also relevant under the 'SOCIAL statistics'

Commented [MR45]: These two measures have very different purposes; calculating mass-balance directly from data is probably unnecessary given technical estimation of feed conversion ratios, which should be quite accurate. Cost data is higher priority.

Commented [MR46]: Why not just capital costs as a flow concept?

Commented [CR47R46]: Shall we propose such? If investments is not so fundamental then we may change.

strongly encourages countries to make efforts to collate and maintain the information on investment relevant to the aquaculture sector in a systematic way, where applicable.

5.3 Key Social variables and indicators

5.3.1 Employment in Fisheries

Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing

[Definition of fishers based on ISIC should be included here]

Statistics on the number of fishers should follow international standards for reporting employment statistics. i.e. the sub-divisions of the ILO International Standard Classification of Occupations (ISCO-88). The United Nations Statistical Commission specifically recommends collecting employment statistics by gender and age, See Annex K.I. However, definitions, concepts and methods of compiling data are subject to significant national variations and CWP, in view of the widely varying national situations, has not laid down firm guidelines for application at the international level. However, CWP did reach a wide degree of agreement on the definitions that would be appropriate should such guidelines be fixed. These definitions are:

- → **Full-time engaged** [fishers] receive at least 90% of their livelihood from fishing or spend at least 90% of their working time in that occupation.
- → **Part-time fishers** receive at least 30% but less than 90% of their livelihood from fishing or spend at least 30% but less than 90% of their working time in that occupation.
- → **Occasional fishers** receive less than 30% of their livelihood from fishing, or spend under 30% of their working time in that occupation.
- → **'Sports fishers' or Recreational fishers** are those individuals who report catches under a scheme for documenting recreational fisheries but does not have a significant income from such catches.

The CWP noted a number of problems in identifying and enumerating separately "fishers" as primary producers among the economically active population. These problems arise largely from the seasonal availability of the various fishery resources compounded by the seasonal availability of more lucrative occupations. In many countries the number of people whose only source of income is from a year-round activity in fishing is small compared with the number of people entering the industry at peaks of activity in that industry, or slack periods in a more lucrative industry. For example, fishing is often of major importance in "under-developed" regions where the other major industry may be tourism. (See FAO Fisheries Circular 929, Revision). The fishing "season" may be adapted so that it does not coincide with the peak tourist period from which earnings might well be higher.

Another problem is associated with subsistence fishing which is undertaken on a full-time, part-time, or occasional basis in many developed or developing communities as part of the occupation of the economically-active populations. However, people who are too young, too old to be normally included in the economically active population may be involved in subsistence fishing. These issues are further complicated where subsistence fishing merges with recreational fishing. For example, recreational/sports fishers and people owning and operating pleasure craft might try to offset their capital expenditure and running costs through the sale of fish caught during trips of such recreational craft.

Commented [n48]: No social variables, apart from Employment (number of fishers), or indicators are presented in the text for fisheries.
Furthermore, no mention is given as to how the employment data should be collected, for example, age, gender, etc.

Commented [n49]: Employment in fisheries
As in 5.3.2 Employment in Aquaculture

Commented [MR50]: In the interest of objectives related to inclusion, collecting data on gender should be considered

Commented [AC51]: Ensure gender is also considered in employment data for post-harvest/processing industry. Include also unpaid labour, often performed by women

Commented [n52]: Common practice to define acronym at first use

Commented [CR53R52]:

Commented [n54]: Same as above

Commented [n55]: See ISCO-88, Annex K.I. ??

Commented [MR56]: Does this match the definition of full and part time farmers used in agricultural statistics? There are good reasons to harmonise definitions between fisheries and agriculture given similar policy concerns and objectives.

Commented [AC57]: What about fishers deriving income from "pescaturismo" activities

CWP proposes as to the coverage of the "**fishing population**" that it would wish to see included in statistics of the industry. This coverage is as follows:

1. The number of fishers that are reported by the national statistics should follow the same 'flag' principle that is followed when recording the catch and landing statistics, i.e. the statistics should reflect the number of fishers that are engaged in producing the landings recorded in accordance with the guidelines given in section 'Nationality of catches and Landings' . Therefore, fishers working on foreign vessels landing in national ports should be excluded from the data. The data should show, preferably separately, the national fishers working on foreign vessels chartered to national companies. Fishers on whaling vessels should be recorded separately.

2. All commercial, industrial and subsistence fishers, operating in freshwater, brackish water, and marine waters in economically inspired efforts to catch and land any of the great variety of aquatic animals and plants, should be included. The term "fisher" should include not only those operating from fishing vessels of all types, but also those operating land-based fishing gears and installations from the banks of rivers, lakes, canals, dams etc., and from beaches and shores which do not require the use of auxiliary boats. Where possible a breakdown by the type of activity should be included. People working on fish farms, hatcheries, and employed in shell fish culture operations, should be included with Aquaculture statistics.

3. The data collected nationally should include nationals, and others employed (irrespective of nationality) on nationally registered or flagged vessels landing their catches in foreign ports.

4. The crews on fish factory ships, mother ships to fishing fleets, and on auxiliary craft such as, fish carriers, and fish transport craft should be included.

~~4.~~5. The crews of state-operated fishery patrol vessels, fishery protection vessels, hospital ships, etc. should be excluded from the fishers' statistics.

It was recognized that, while the above would greatly improve the current situation regarding fishers' data, there were a number of points which, albeit of relatively minor importance in terms of the number of people involved, still had to be resolved. For example, while a spotter on the bridge or on the mast of a fishing vessel would probably be included in the fishing population, it was not so certain that a spotter in an airplane or helicopter scouting for a fleet would.

As part of the FAO annual statistical enquiry of world fishing industries, annual questionnaires to collect numbers of fishers according to the time spent in fishing have been dispatched to countries regularly. Interpretation of these requires careful scrutiny with close attention to their shortcomings.

FAO collects data on fishers by means of the statistical questionnaire FISHSTAT FM. In 1995

Commented [n58]: So, in other words, crew on factory ships would be considered 'fishers' even though they may not be directly linked to any fishing activity?
It is possible that factory ships are simply wholesalers...this seems to contradict points 1 and 2.
And how would these 'fishers' be reported statistically? Separately, as in point 5? And by what segment, 'fishery', fleet, etc.?

Commented [CR59R58]: This points raises several doubts. Moreover that

Commented [n60]: How are these crew to be reported? This would be appropriate if data were collected by firm, which is not necessarily the case in many data collection schemes

Commented [CF61]: I think point 1 and 4 should be merged

this questionnaire for reporting employment in fishing was modified so as to bring it in line with the ILO standard.

For some purposes, the conversion of the employment data as full-time equivalent (FTE) may be useful. However, in many situations it is the actual number of people affected that is relevant and fisheries are subject to strong seasonal variation in employment based on the characteristics of the fisheries. Where such conversion is desirable guidance may be found in LEI WAGENINGENUR Coordinator, 2006 Calculation of labor including full-time equivalent (FTE) in fisheries Study No FISH/2005/14 and amended by the SGECA 07-01 report.

Commented [CF62]: I perfectly agree; as such, the resulting variables are heterogeneous and their aggregation in total employment is problematic.

Bibliography

FAO. "Numbers of Fishers, 1970-1997." FAO Fisheries Circular. No. 929, Revision 2.1999

Insert bibliography: fisheries Study No FISH/2005/14 and amended by the SGECA 07-01 report

5.3.2 Employment in Aquaculture

An employee is one whose main activity during the reference year was to be in paid employment or self-employment. Currently, FAO is collecting the employment in aquaculture with the following classifications (see CWP Handbook on Fisheries):

- → Full-time farmers receive at least 90% of their livelihood from farming activities (including employment at farms) or spend at least 90% of their working time in that occupation.
- → Part-time farmers receive at least 30% but less than 90% of their livelihood from farming activities (including employment at farms) or spend at least 30% but less than 90% of their working time in that occupation.
- → Occasional farmers receive under 30% of their livelihood from farming activities (including employment at farms), or spend under 30% of their working time in that occupation.

Commented [MR63]: See earlier comment on consistency with agricultural definitions for farmers

However, it is noted that this classification is not necessarily always suitable and/or applicable to actual employment and working situations in aquaculture sector.
Where possible, further data collection on employment, especially through full utilization of census together with follow-up surveys, will support in developing better understandings on social and economic contribution and issues of aquaculture sector.
One area of potential improvement is to incorporate additional classifications of employment as follows:

- → Employee: person in paid employment,
- → Own-account worker: person who is working on his/her own account, or with one or more partners, in a self-employment,
- → Contributing family worker: person who is working in a self-employment in the holding operated by a member of the same household,
- → Others

The data to be collected may include age, gender, average wage, and educational level, together with number of people engaged by these categories. Such information could be collected at the time of population census by separating aquaculture from agriculture as

independent sector as well as other surveys including agricultural census, fishery census, and rural surveys.

5.4. Socio-economic data acquisition carried out by International Organizations involved in fisheries data collection and represented in the CWP

Note: Please insert a brief description of data being collected/received and indicators produced and main aim of the data collection program. Links to relevant documents, websites or any other relevant tool should also be entered.

- **European Union**

Since 2000, an EU framework for the collection and management of fisheries data is in place. This framework was firstly reformed in 2008 resulting in the Data Collection Framework (DCF), and amended lately in 2016 and 2017 to further refine data collection programmes for the period 2017-2019. *Under this framework the EU Member States (MS) collect, manage and make available a wide range of fisheries data needed for scientific advice. In addition to biological and environmental data,* ***social and economic data on fisheries and aquaculture enterprises*** *shall enable the assessment of the social and economic performance of the Union fisheries and aquaculture* sector.
The detailed list of the socio-economic variables and the details of the data collection are defined by the Commission Decision Commission Decision of 12 July 2016 (2016/1251/EU) : Adopting a multiannual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017-2019.

- **FAO**
  (content yet to be developed)

Bibliography: Pinello, D., Gee, J. & Dimech, M. 2017. Handbook for fisheries socio-economic sample survey – principles and practice. FAO Fisheries and Aquaculture Technical Paper No. 613. Rome, FAO.

- **GFCM** Data Collection Reference Framework (DCRF) - **Task VI: Socio-economic**

The objective of the GFCM DCRF Task VI on Socio-economic data is to collect information in order to monitor the economic status of the fishing sector. Data collected under this task are needed to develop appropriate policies and strategies, especially in relation to promoting the long-term sustainability of resources and fleets.

Economic data can help to explain fisher behaviour and the overexploitation of fisheries resources. The species that fishers target, the level of exploitation, and the gear that they use are all influenced by the benefits they receive (i.e. the revenue) and the costs they incur.

The systematic collection of socio-economic data is necessary so as to assess the economic consequences of different management options on the varying groups, based on the incentives that these create. Economics provide a framework for the optimal allocation of marine resources for the benefit of society. It provides an approach to valuing the different activities, allowing trade-offs between activities to be assessed and impacts to be measured in a consistent manner.

Under Task VI, economic and social information should be collected by area (GSA) and by fleet segment. Countries collecting these data on a yearly basis are requested to submit them annually (reference year – 2). Biennial submission is requested for those countries that do not have annual economic surveys in place.

Economic and social data are generally collected through sampling surveys using questionnaires, but for some fleet segments and some variables, other data sources could be used (e.g. administrative records, auction sales, and census).

Data collected under this task will help to obtain:

- trends in economic performance and social indicators;
- time series analysis of average annual prices for commercial species;
- analysis of the profitability of fleets (income, gross value added, operating cash flow);
- an accurate source of statistical data for landing values and prices;
- a better knowledge of fleet costs and their breakdown in different categories;
- a complete picture of regional, subregional and national employment in the fishery sector.

Exhaustive definitions of concepts related to capital value and costs as well as methodologies for calculating these variables are detailed within the *Data Collection Reference Framework (DCRF) Manual* (http://www.fao.org/gfcm/data/dcrf/en/)

- **OECD**

OECD Employment data are collected by Economic sector (Harvest sector – Inland water fishing, Marine Coastal fishing, Marine Deep sea fishing, Aquaculture, Processing), Gender and Occupation rate (Part time, Full time). Data are available at: *http://stats.oecd.org/wbos/default.aspx?datasetcode=FISH_EMPL*

- **SPC**