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IMPACT ASSESSMENT

**Accompanying Commission proposal for a Regulation of the European Parliament and
of the Council on the Common Fisheries Policy [repealing Regulation (EC) N°
2371/2002]**

This report commits only the Commission's services involved in its preparation and does not prejudice the final form of any decision to be taken by the Commission.

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Impact assessment concerning the Commission's proposal for the 2012 reform of the Common Fisheries Policy

Lead DG: DG MARE

Other involved services: BUDG, TRADE, ELARG, SJ, JRC, SANCO, AGRI, DEV, ESTAT, ECFIN, COMP, REGIO, RTD, ENV, EMPL, ENTR and SG

Agenda planning reference: 2011/MARE/004

1. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

This report commits only the Commission's services involved in its preparation and does not prejudge the final form of any decision to be taken by the Commission

1.1. Organisation and Timing

This document constitutes an impact assessment (IA) of different options to reform the Common Fisheries Policy (CFP, hereinafter) as covered by the current Council Regulation 2371/2002 (the "Basic Regulation")¹. Two other CFP tools are due to be revised at the same time: The European Fisheries Fund (EFF)² and the Common Market Organisation (CMO) for fisheries and aquaculture products³. The strategic future policy directions for these two additional tools are addressed in the different options examined in this IA. The contents of the preferred option regarding the future financial instrument for fisheries and maritime policies support and the CMO will be the starting points for the additional, separate IA accompanying these two legislative proposals. The first is progressing. Its timing depends on that of the composite impact assessment supporting the coming Regulation on the EU's multiannual financial framework after 2013. The second will be discussed with the Impact Assessment Board (IAB) on 9 March 2011.

The IA for the CFP reform has progressed in several steps since October 2009. The first included an analysis of the current CFP and of the future impacts of continuing the current policy beyond 2012 up to 2022. A methodology for analysis was also defined at that time. As a second step, four high level options were defined and analysed.

In parallel, an analysis of the impacts of the different options on four specific regions was also carried out using the agreed methodology. Its objective was to check whether conclusions of the IA for the EU were also valid for four regions (Brittany, Galicia, Scotland and Sicily) where fishing is of very high economic and social importance.

Finally, as a third layer of analysis, 24 case study areas including all coastal Member States (MS) were analysed to get a broad picture of economic and social impacts on coastal communities dependent on the fisheries sector⁴.

1.2. Internal consultation

An IA Steering Group (IASG) was created on 28 September 2009 and included the same Commission services that had participated in the IASG for the preparation of the Green Paper on the reform of the CFP⁵: BUDG, TRADE, ELARG, SJ, JRC, SANCO, AGRI, DEV, ESTAT, ECFIN, COMP, REGIO, RTD, ENV, EMPL, ENTR and SG. The IASG met on 8 October 2009, 11 March 2010, 24 June 2010, 23 September 2010 and 19 November 2010. At the last of these meetings the current IA was presented.

1.3. Consultations with stakeholders

The Green Paper on the reform of the CFP was the basis for a public consultation which lasted formally until 31 December 2009. It was divided into chapters dealing with

specific problems of the current CFP and possible ways forward, including a list of questions. In total, 394 contributions were received.

In addition to the public consultation, around 200 meetings with administrations of MS, Advisory Committee on Fisheries and Aquaculture (ACFA) and Regional Advisory Councils (RACs), the fishing industry, the processing and marketing sector, trade unions, NGOs, and researchers were organized during the preparation of the Green Paper.

Finally, a number of meetings took place in the first half of 2010, during which concrete options for the CFP reform were presented by the Commission and discussed with stakeholders (see list in Annex 2).

The main elements emanating from the consultation process can be summarised as follows:

A number of MS, together with NGOs, processors, traders and retailers want environmental sustainability to be a CFP overarching priority. Some other MS, the EP and the catching sector give equal weighting to ecological, economic and social objectives. Trade unions focus on the social dimension.

The maximum sustainable yield (MSY⁶) is generally perceived as the proper objective to be gradually reached while opinions differ whether this should be the ultimate or an intermediate goal. The difficulty (and necessity) to reaching MSY in mixed fisheries is also raised, although few solutions are proposed in this respect. There is agreement on the necessity to deal with discards through a mix of measures, depending on the fishery and on its causes.

Overcapacity is recognized as a major problem. Some contributions call for a one-off scrapping fund while others perceive Individual Transferable Rights (ITR) as potentially more useful, although some MS prefer ITR is implemented at national level only. Concerns about small scale coastal fleet (SSCF⁷) and excessive concentration of rights are also expressed. The majority of MS are of the opinion that ITR should not affect relative stability, although there is general support for more flexibility on inter-annual quota swaps between MS.

Regarding governance, there is almost unanimous support for a clearer chain of responsibilities and for some kind of regionalisation with different degrees of responsibilities.

The definition of SSCF and the way it should be addressed by the future CFP attracts different views; in particular some call for a privileged access to public support and fisheries resources for SSCF while others do not see grounds for such a differentiation.

The common market organisation for fisheries and aquaculture products (CMO) is perceived as an important component of CFP. However, it should be overhauled to ensure its objectives of market stability, better adaptation of the offer to the demand and adequate information to consumers. The new market policy should focus on marketing by strengthening the organisation of the sector (producers' and inter-branch organisations), enhancing market knowledge and analysis, by targeted market interventions.

There is agreement that the CFP knowledge base needs to be improved, with some concerns about data availability and quality. The policy should be based on science and on a better cooperation between the fishing sector and scientists.

As regards public financial support the majority view is that the new EFF needs to accompany the transition and implement the CFP objectives, with increased conditionality. Views differ on the focus and scope of the funding.

On the external dimension, all stakeholders affirmed the importance of the external dimension of the CFP. An overwhelming majority was in favour of a more prominent involvement of the EU at the regional RFMO level and in the global governance of fisheries. An EU long distance fishing fleet should be maintained and Fisheries Partnership Agreements (FPAs) continued, although there are differing views on their funding basis (private or public).

In terms of access to international waters, the majority of stakeholders advocated continuing the policy of free access to international waters regulated by RFMOs, with a minority promoting establishment of payment for the right to fish in the high seas as a practice of good maritime governance.

In terms of access to international waters, the majority of stakeholders advocate continuing the policy of free access to international waters regulated by RFMOs, considering them as a sort of public good. A stakeholder even stated its willingness to pay for fishing rights in exchange for greater participation in RFMO's decision-making process. A few others suggested that the countries benefitting the most should pay for the running of the RFMOs and that research and surveillance should be paid by the industry. Some 20% of stakeholders, including environmental NGOs, advocate payment for the right to fish in the high seas as a practice of good maritime governance. Stakeholders requested also to render statistical and scientific information more reliable, to reinforce control systems and to put in place a system of dissuasive sanctions.

1.4. Dissemination of the results of consultations with stakeholders

The results of consultations are summarized in a Commission's Staff Working Document "Synthesis of the Consultation on the Reform of the Common Fisheries Policy"⁸. The synthesis is publicly available at: [http://ec.europa.eu/fisheries/reform/sec\(2010\)0428_en.pdf](http://ec.europa.eu/fisheries/reform/sec(2010)0428_en.pdf).

1.5. Incorporating comments by the Impact Assessment Board

A first draft of the IA report (IAR) was discussed with the IAB on 12 January 2011. In its opinion of 17 January 2011⁹, the IAB requested to receive a revised draft of the IAR, modified to address the IAB's comments in the opinion and the more technical comments transmitted to DG MARE in advance of the meeting.

A new version of the IAR was prepared taking these comments fully into account, with the following exceptions:

- The quantification of specific objectives was not always possible, either because of data limitations concerning the baseline situation (e.g.: amount of overcapacity, level of discards) or because, as explained below in Section 6, it was not feasible to identify a precise target value that would amount to achieving the specific objectives. This is particularly the case for economic and social sustainability where the approach was that, the higher the values for the future performance indicators (economic sustainability) and composite indicator (social sustainability) the better. Regarding administrative burden reduction, the lack of a target value for post-2012 means it was impossible to actually define a target.
- As part of the methodology, it was foreseen to use a significant number of performance indicators. However, not all of them are actually used for comparing the

impacts. That is because it turned out that they were influenced by external factors (e.g.: areas covered by protection regimes, fish prices, the level of subsidies or the level of coherence with WTO and other policies), their values were not different between reform options (e.g., average size of fish), their values were not quantifiable (e.g.: status of fisheries dependent communities) or because in the end they did not add anything to the analysis (e.g.: gross value added per employee).

The modified IAR was submitted to the IAB on 1 February 2011. In its second opinion of 17 February 2011¹⁰, the IAB recognised improvements in line with the previous recommendations and did not request a further resubmission. Nevertheless, it made a few additional recommendations. These have been taken into account in the final version of the IAR. Nevertheless, regarding how the gap in scientific advice will be closed, it has to be underlined that most of the possible solutions are to be addressed in the IA for the future financial instrument for fisheries and maritime policies. For example, one of the options considered in that IA foresees the integration of both the Data Collection Framework and the Integrated Maritime Policy (IMP) marine knowledge into one fund to find synergies and eliminate possible overlaps. Furthermore, pending the adoption of the Regulation on the EU's multiannual financial framework after 2013, it is not possible to state how much closing the gap will cost beyond the estimation given in the present IAR.

2. THE STRUCTURE, PERFORMANCE AND PROBLEMS OF THE CURRENT CFP

Articles 32 and 33 of the Treaty establishing the European Community laid down the scope and the objectives of the Common Fisheries Policy (CFP). These general provisions were specified in Council Regulation (EC) N° 2371/2002 (the "Basic CFP Regulation") which identifies the detailed objectives of the CFP as well as the main policy instruments and actions needed to reach the objectives established by the Treaty. According to Article 2.1 *"The Common Fisheries Policy shall ensure exploitation of living aquatic resources that provides sustainable economic, environmental and social conditions."*

Within this general framework, the CFP has been implemented through extensive regulatory action which resulted in a significant body of rules on fishing activities within the EU. The most relevant among these rules, adopted principally in the form of Council Regulations, consist of the following:

- Conservation and sustainability (long term management plans, TACs and quotas Regulations, Technical measures, etc.) and control (Control Regulation, IUU Regulation, Data Management, Fishing Authorizations, etc).
- Market and trade (CMO);
- Structural policy, including financial support (EFF);
- External dimension (as referred to above, FPAs and RFMOs).

These instruments have been complemented by other specific or regional regulations when additional rules were deemed necessary and/or appropriate, and by implementing rules adopted through Commission Regulations. As far as the external dimension is concerned, Council Regulations have also been adopted in order to implement the measures adopted at international level in Community law.

The Total Allowable Catches (TAC) and quota regulations are the cornerstone of the CFP management system. Together with the principle of the Relative Stability¹¹, they form the basis for the allocation of fishing possibilities among MS.

Technical measures regulations are another fundamental tool of the CFP. They are qualitative rules intended to protect fish stocks and the ecosystems in which they live, by encouraging certain kinds of fishing practice, and discouraging, or banning, others. The term embraces a wide and varied range of measures, such as minimum mesh sizes for nets, closed areas and seasons, minimum landing sizes, limits on by-catches as a percentage of total catch, and incentives to adopt specific kinds of fishing gear which have been shown to reduce by-catch of unwanted organisms. What they all have in common is that they oblige, or encourage, fishers to be more selective in fishing.

Fishing effort limitations (e.g. days at sea) have been introduced as an additional tool in managing stocks where TACs have been insufficiently set/enforced to reduce fishing mortality. It has further increased the complexity of the management for the operators, although in several cases it brought about a decrease in fishing mortalities.

Has the CFP performed as expected? The conclusions of the Green Paper are that the CFP has failed to achieve its key objectives: to ensure sustainable exploitation of living aquatic resources in all three dimensions – environmental, economic and social. The stocks are overfished, the economic situation of most of the fleets is poor despite high levels of subsidies, jobs are mostly of low quality, while the situation of many coastal communities depending on fishing is precarious.

The basic CFP regulation brought about two significant improvements in terms of management tools. The most important one is the use of Long-Term Management Plans (LTMP). LTMPs set goals for sustainable management of specific stocks and map out the path to achieving them. They are used to keep exploitation of fish stocks at the level that gives the highest yield in the long run and to rebuild overfished stocks. Each multiannual plan is based on a harvest control rule (HCR) that is tailor-made for the fishery in question. This is a simple mathematical formula which converts quantifiable scientific data into proposed catch and effort limits for the coming year. As a general rule, annual changes in TAC and effort should not exceed a certain percentage, except where stocks are under the most pressure. LTMP exist for 22 stocks, about 25% of all EU commercially important stocks¹².

Another important development was the creation of Regional Advisory Councils (RAC). RACs provide for an instrument to foster dialogue and consensus between stakeholders and with the Commission as regards policy decisions. This has been an important step towards a more regional CFP and encouraging bottom-up involvement by stakeholders.

What are the main problems behind that unsatisfactory performance?

The identification of problems and drivers for these problems is difficult because of their interdependence. For example, overcapacity is the main driver for overfishing. However, overfishing is also a driver for overcapacity, as the reduction of quotas intended to curb it, further increases overcapacity. Similarly, overcapacity implies also poor economic performance of the catching sector. But that poor economic performance in turn, fosters overfishing as a short term fix for diminishing revenues. The poor economic performance also results in the continuous industry call for public financial support, which maintains overcapacity. The poor economic (and social) performance also fosters overfishing indirectly because it encourages Council's deviation from TACs proposed by scientists. With these multi-directional links in mind, the following ranking of problems can be set:

- The main problem of the CFP is the lack of environmental sustainability; that is the existence of overfishing, or of an excessive fishing pressure. It could be said that all other problems referred to below, directly or indirectly contribute to overfishing. Fleet's overcapacity, the high level of micromanagement and the lack of prioritisation

of objectives are the main drivers for overfishing. However, relative stability, the high level of discards, poor compliance and the lack of sufficient scientific advice are important additional drivers.

- The second major problem of the CFP, intimately linked to the first, is the poor economic sustainability. Economic performance, in particular of the catching sector, is poor. Many fleets are in red and depend on public financial support.
- The third major problem is the lack of social sustainability, which again is closely linked to the other two and affects basically the catching sector. From a demand perspective, low wages and high safety hazards mean that the catching sector is not an attractive enough source of employment to new generations of local fishermen. From a supply perspective, the poor environmental sustainability together with the poor economic sustainability mean that employment, particularly in the catching sector, has been declining for the last 15 years at least.
- As a fourth problem, the CFP has a very complex framework, which fosters micromanagement and impedes achieving these objectives, but particularly environmental sustainability.
- The external dimension of the CFP has also performed less well than expected, particularly as regards environmental sustainability, but also in terms of international governance.
- Finally, the CFP has been affected by a number of external factors such as pollution, climate change and the increased use of the marine space by other users.

Part of the failure is also related to the way the above management tools (TAC, quotas and relative stability) are designed. TACs are set for individual species. In reality, however, a large number of EU fisheries are multi-species. Out of the stocks considered for this IA, it is estimated that some 30% in the northern category, 80% in deepwater and 50% in the southern category may be in multi-species fisheries. This means that fishing vessels operating in such fisheries catch many species together, often unintentionally exceeding TAC and, as a result, have to get rid of the excess fish in by dumping at sea (discards). Furthermore, TACs are an annual decision, taken in the framework of political bargaining, which often results in TAC levels set too high with regard to scientific advice and long-term objectives. Finally, TACs refer to fish being landed, not caught. The amount of fish that are caught and discarded, contributes to the mortality of the stocks, but is not counted against the quotas.

The lack of effectiveness of technical measures is due to the fact that they were often adopted on an *ad hoc* basis and as a means to try to redress the deterioration of stocks. As a result, fishermen have to cope with a mass of overlapping, and sometimes contradictory provisions scattered throughout different legal texts. Multiple derogations and exceptions for given MS or vessels further reduce their effectiveness and increase the complexity of the system. As further explained in Section 2.1.4 below, Relative Stability also contributes to the lack of effectiveness of the management tools.

The new instruments from the 2002 reform also suffer from some shortcomings: LTMPs are developed mostly on a per-stock basis requiring many plans to cover all stocks involved in mixed fisheries. This creates a risk of overlaps and inconsistencies between LTMP covering the same fleet, fishery or area. Furthermore, they have not achieved a sufficient reduction of fishing capacity and have not been able to reduce discarding¹³. Finally, some of the early LTMPs had target fishing mortality rates that were not

consistent with MSY. As regards RACs, some are not yet fully operational and there are concerns whether representation of stakeholders is sufficiently wide.

Table 1 – Pillars, objectives and problems

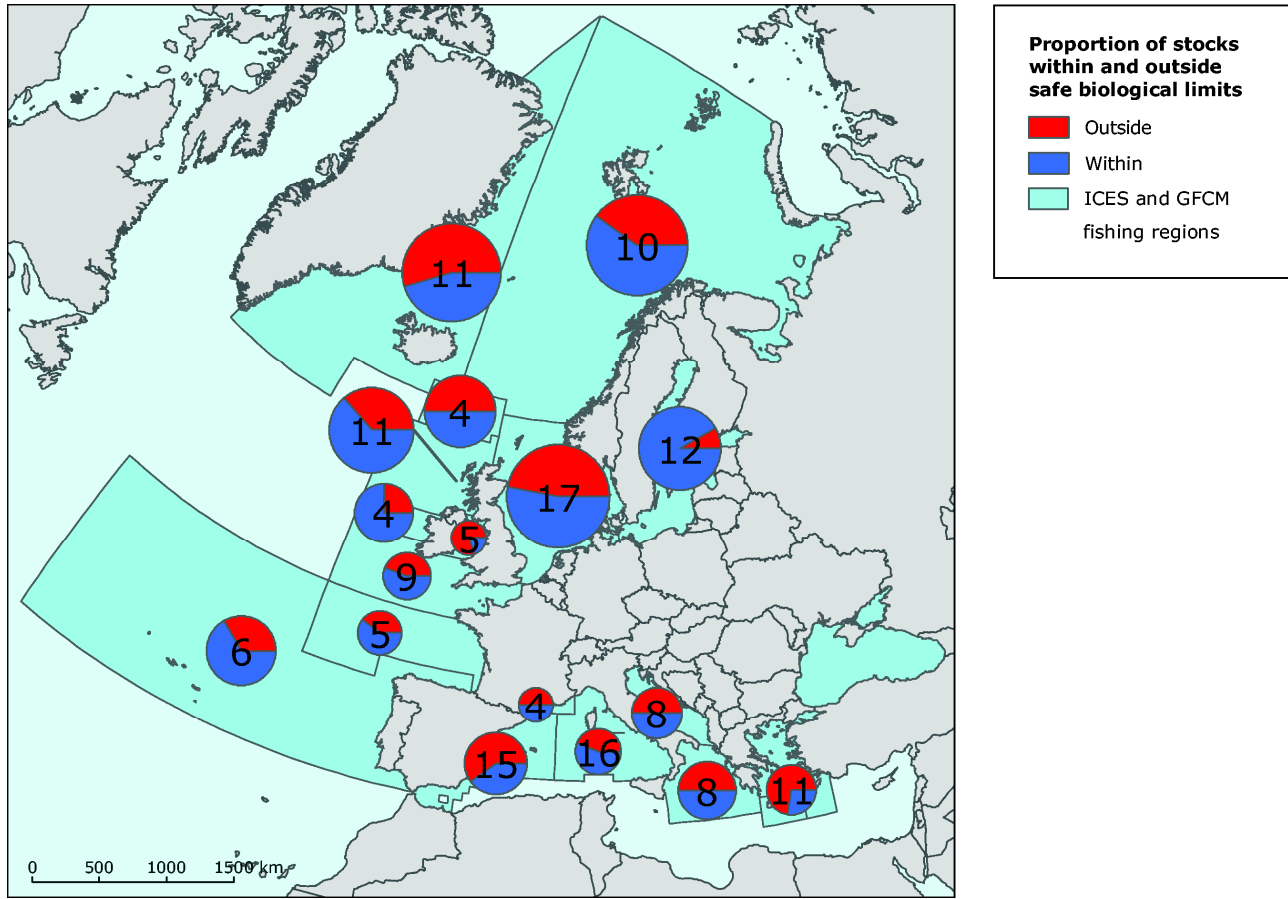
Pillars of the CFP 2002	Objectives of the CFP2002 Ensure sustainable exploitation	Problems
<u>Resource management</u>	<u>Environmentally</u> sustainable (Conservation of halieutic resources at safe biological level)	<p><u>Lack of environmental sustainability: Overfishing</u></p> <ul style="list-style-type: none"> • Overcapacity. • A policy characterised by micromanagement at the central level and by the lack of prioritisation of objectives. • The existence of discards. • Relative Stability. • Insufficient scientific and economic data
<u>Structural policy</u>	<u>Economically</u> viable and profitable fisheries sector	<p><u>Lack of economic sustainability</u></p> <ul style="list-style-type: none"> • Economic performance indicators for many fleet segments are decreasing. The same goes to ancillary services. Processing and aquaculture perform better, but aquaculture production has stagnated. • The catching sector is very vulnerable to external shocks • The CMO has been ineffective <p>Public financial support has not improved economic performance</p>
<u>Markets (CMO)</u>	<u>Socially</u> attractive employment and coastal regions	<p><u>Lack of social sustainability</u></p> <ul style="list-style-type: none"> • Employment declines, particularly in the catching sector,. • Employment in the catching sector is not attractive enough for locals. • Some fisheries-dependent coastal communities decline.
<u>External aspects</u>		<p><u>A very complex framework</u></p> <ul style="list-style-type: none"> • Makes compliance difficult and reduces industry responsibility <p>Difficult to automatically incorporate environmental considerations</p> <p><u>An external dimension of CFP less effective than expected</u></p> <ul style="list-style-type: none"> • Weak link between FPAs and sustainable fishing in third countries <p>Lack of governance in the RFMOs</p> <p><u>Factors beyond the CFP:</u> Integrated Maritime Policy, pollution, climate change,</p>

2.1. The lack of environmental sustainability: Overfishing

Overfishing is the main problem of the current CFP. Available figures for 2009¹⁴ show that out of the 93 stocks for which sufficient scientific advice exists, only 21.5% are exploited at levels delivering maximum sustainable yield (MSY), 35% are over-exploited and 43% are outside safe biological limits¹⁵. That means that 78.5% of Community stocks for which there is scientific advice are fished unsustainably. The average size of fish has been steadily declining over the last 20 years.

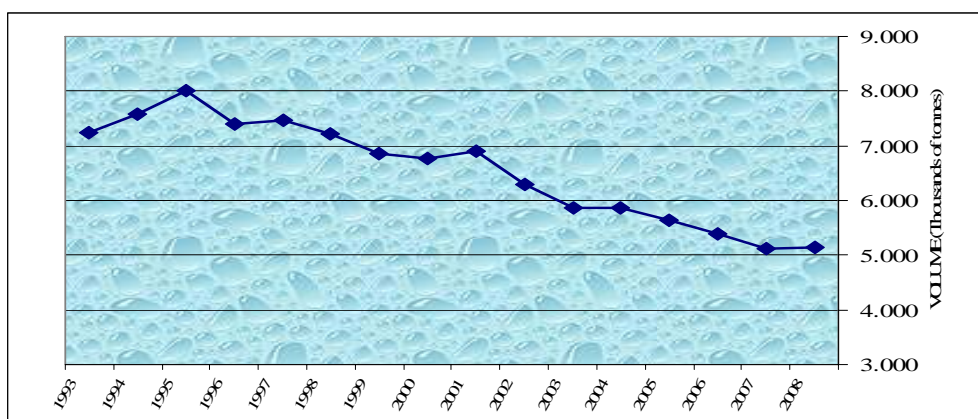
The chart below shows the proportion of assessed stock (in 2006) which are overfished (red) and stocks within safe biological limits (blue). The number in each circle represents the number of stocks assessed within the given region. The size of the circles is scaled proportionally to the magnitude of the regional catch.

Chart 1 – Status of the fish stock in ICES (International Council for the Exploration of the Sea) and GFCM (General Fisheries Commission for the Mediterranean) fishing regions of Europe in 2006



Between 1996 and 2006 catches decreased by over 30%. As shown below, EU catches have been declining since 1993, at an average of 2% per year. Almost all demersal stocks have declined in recent years and are currently not exploited at sustainable levels. Pelagic stocks, which have more pronounced cyclical developments, are generally in healthier conditions. Accordingly, the catch decline has been much more substantial for the demersal (-32%) than for the pelagic species (-6%¹⁶).

Figure 1 - Trend in the EU-25 of the total annual catches in all regions (1993-2008) - source: Eurostat



2.1.1. Overcapacity

Overcapacity is a biological and economic problem. It means that too many vessels catch existing fishing resources, but also that there are too many vessels for the available fishing rights. The following table summarises the distribution of fishing fleets in the

EU-27 by length and MS in 2007 and 2009¹⁷. 83% of the vessels are less than 12 metres long (which is the definition SSCF for the purposes of the IA).

Table 2 - EU fishing fleets in 2007 and 2009. Source/ EU fleet Register

Length (m)	Vessels			Tonnage (GT)			Power (kW)		
	2007	2009	Variation %	2007	2009	Variation %	2007	2009	Variation %
0-6	28794	26975	-6,32%	22126	20863	-5,71%	309893	305837	-1,31%
6-12	44243	43329	-2,07%	157957	154637	-2,10%	2049892	2058348	0,41%
12-18	7853	7475	-4,81%	180145	172664	-4,15%	1102705	1049659	-4,81%
18-24	3926	3672	-6,47%	292203	275563	-5,69%	1040768	975379	-6,28%
24-30	2047	1944	-5,03%	281718	270946	-3,82%	738359	705050	-4,51%
30-36	742	688	-7,28%	178055	165727	-6,92%	399264	365473	-8,46%
36-45	586	520	-11,26%	229745	204054	-11,18%	558459	484655	-13,22%
45-60	155	137	-11,61%	130845	115780	-11,51%	231847	195970	-15,47%
60-75	86	81	-5,81%	136724	134176	-1,86%	228010	230821	1,23%
>75	88	88	0,00%	313010	329882	5,39%	361897	381546	5,43%
Total	88520	84909	-4,08%	1922528	1844292	-4,07%	7021094	6752738	-3,82%

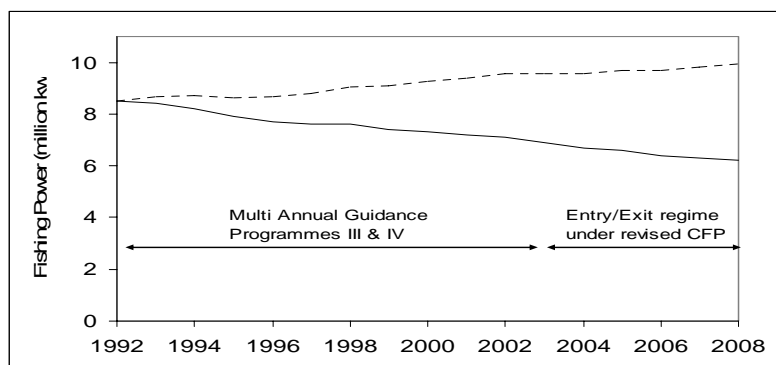
Between 1992 and 2009 the number of fishing vessels in the EU has decreased from 105,000 (EU-15) to 80,000 (EU-27), at an annual pace ranging from 1.8 to 2.3% in nominal terms¹⁸.

In some coastal areas the capacity reduction was much higher than on average. This is the case for the majority of communities analysed in the socio-economic study¹⁹, which show declines in vessel numbers between 10-40% in the last five years. Recent pressures from high fuel prices, reduced catching opportunities and increasing focus on environmental protection are encouraging consolidation and reinvestment in fewer larger vessels and towards more selective and fuel efficient fishing (for instance by using smaller engines).

Article 3(n) of the Basic Regulation defines fishing capacity as a vessel's tonnage in GT and its power in kW. Figures in Table 2 could be interpreted as saying that the fleet capacity measures in place (the entry–exit regime and the prohibition to replace the capacity withdrawn with public aid) have performed well. However all MS have complied with the fishing capacity limitations, and the majority of them even have a non-negligible margin of fishing capacity under their respective ceilings, which means they could even increase the size of their fleets and remain in compliance with their legal obligations under the Basic Regulation²⁰.

However counting vessels, GT or kW does not allow having a complete picture of the actual capacity to catch fish by the fleet. These indicators are proxies that do not allow us to grasp the real fishing capacity. Capacity depends on tangible elements, such as GT or the kW but also on the technological efficiency of vessels (electronic equipment, automation of fishing operations, endurance and consumption of the power plant, overall design of the vessel and so on) that are more difficult to measure. Furthermore it also depends on intangible elements, such as the experience and know how of skipper and crew. The dotted line in Figure 2 below tries to show the evolution of the real fishing capacity if technological efficiency is taken into account. It can be seen that the nominal reduction in capacity does not translate into a reduction of real capacity to catch fish.

Figure 2 - Capacity development over the last 16 years in EUR12 MS



Source: Fleet register and diagnosis of the EU fishery sector-working staff documents- DG MARE-2009

The most complete assessments of the Community fleet overcapacity has been done in the preparation of the third and fourth multi-annual guidance programmes in 1990 and 1996 (Gulland and Lassen). Both reports indicate that fishing mortality should be reduced about 40% or more for almost all of the fish stocks that were examined. This 40% figure has been used since then as a reference value for overcapacity in EU fleets.

In addition, work done by the Scientific, Technical and Economic Committee for Fisheries (STECF) in 2008²¹ shows a capacity utilisation (in technical terms) between 60-80% in the North Sea mixed demersal fisheries and between 50 and 70% in the North Sea flatfish fisheries. As regards MS, the STECF estimated that overcapitalisation was in the range of 60-70 % for German and Belgian segments. Finally, MS give some indications on the existence of overcapacity in their fleets. For example, according to the EFF operational programmes, there are figures of 9% overcapacity for Portugal, 23% for Spain and 50% for the Swedish demersal cod fleet and for the UK under 10 m vessels fishing cod).

The persistence of overcapacity shows that the different programmes for the adaptation of the fishing fleets in the FIFG since 1993, in particular the scrapping measures under Priority axis 1, were ineffective.

Furthermore, it has to be noted that until 31 December 2004 it was possible to finance the construction of new vessels (Priority axis 2)²². The EFF has excluded construction aid, but has maintained a tool box of measures under Axis 1 (measures for the adaptation of the Community fishing fleets)²³, some of which, in particular temporary cessation of fishing activities, could incentivise poor performing vessels to stay in business even if economically it would not make sense to do so. Other measures, in concrete terms the financing of equipment and modernisation, can possibly lead to increases in fishing pressure. For example, investments in energy efficient engines and on improvements in working conditions can make it faster for vessels to get to fishing grounds and increase the productivity of fishermen.

2.1.2. A policy characterised by micromanagement at the central level and by the lack of prioritization of objectives

The decision-making does not distinguish between principles and strategies on the one hand and implementation and detailed rules on the other. Decisions are taken (by the Council of Ministers) in a top-down manner, with a tendency to micromanage the fisheries activities (i.e. the Baltic Technical Measures regulation lays down a provision that gives step by step instruction on how to repair a certain gear). This results in a policy which is increasingly complex, and difficult to manage and enforce.

Furthermore, there is no clear hierarchy of objectives on the current CFP, which incentivizes policy decisions based on short-term economic and social considerations, at the expense of long-term environmental sustainability.

The combination of these two elements reduces the quality of governance. This can be shown by two elements: First, the average percentage deviation of Council TACs decisions from scientific advice (for stocks with such advice), for the years 2003-2010, was 47%. Since 2008 this deviation has been reduced to 34% in 2010. Nevertheless, TACs are still set well above what scientist recommend. Second, the number of stocks for which scientific advice was a zero TAC, and for which the Council adopted a positive TAC, was 17 on average for the period 2003-2010. It has been decreasing since 2007 (20) to 2010 (14) but still is high²⁴.

The CFP establishes the precautionary approach²⁵ to ensure sustainable exploitation of stocks and to ensure that the impact of fishing on marine ecosystems is kept at a sustainable level. *De facto*, the principle could amount to giving environmental sustainability some degree of precedence. However, it has been rarely used in reality, and in most situations, the general trend has been to roll-over TAC levels.

2.1.3. Discards

Fishing gears are far from being 100% selective towards the desired landings composition and thus the unwanted catch (or by-catch) of either commercial species for which fishermen have no quota or of non-commercial species is often thrown overboard, which is not illegal in EU waters. Most of the so discarded species die, but as TACs are based on landings; discarded fish are not taken into account. This unaccounted mortality reduces the effectiveness of the TAC system as a conservation tool and undermines scientific advice, which requires reliable data²⁶. Based on FAO data it can be estimated that in European fisheries 1.7 million tonnes of (all species) are discarded annually, corresponding to 23% of total catches.

Discards have serious negative environmental impacts, not only on targeted species but also on non-targeted by-catch. The actual fishing pressure is hence often substantially higher than what the landings data indicate. By the same token, the existence of significant discards reduces the quality of the scientific advice.

Not all fisheries have the same discarding problems. Discards are particularly serious in mixed fisheries and with regards to concrete fishing gears: trawling other active gears. Generally speaking, SSCF discard much less. Mediterranean fisheries are reported to also discard less, because of the fact that management is not based on TACs but on effort.

2.1.4. Relative stability

Relative stability is well-adapted to stock-by-stock management based on TACs and quota. However, developments in both the fisheries and conservation policies have meant that this approach is under strain.

Allocation keys were fixed for each stock on a MS basis as and when they joined the EU, both for single-species and for mixed fisheries. Since then conditions have changed due to stock development, evolution of fleets, new fishing strategies on different stocks, changes in demand for given species, evolution of imports, and so on. All these changes cannot be accommodated within the straight jacket of the fixed allocation keys.

Furthermore, over time a MS may have developed a relatively larger interest in the fishery than its quota represents. The static character of the allocation key may thus lead to a need for this MS of an increased quota, which translates into political pressure on the

total of the Community TAC – an unforeseen "inflationary" effect of defending a national cause by a MS. This can promote deviation from scientific advice.

Furthermore, in mixed fisheries, it is possible that the quota for one stock may be taken up fully while there is still quota available for another stock. This in itself may foster illegal behavior and discards of the stock for which the quota is exhausted.

Finally, on an individual level the fixed quota under relative stability lock vessels into fishing on national quotas. This rigidity, inherent to the principle, limits the economic efficiency and the economic performance of the catching sector, which cannot optimize the scale of their operations and which cannot follow and respond to the evolution of market demand.

The Basic Regulation foresees the possibility for MS to swap quotas. On average, MS have exchanged more than 10% of their quotas in the period 2005-2008²⁷ on an annual basis²⁸. However this is only done at MS and on an annual basis, which again impedes fishing operators to optimise their operations and to plan on a long term basis.

2.1.5. *Insufficient scientific and economic data*

The EU is responsible for some 208 commercial stocks in the Baltic Sea, North Atlantic, Atlantic, North Sea, Black Sea (beyond the 12 nautical miles) and international waters. Dealing with these stocks requires a lot of information and advice.

The Commission receives scientific advice on EU fisheries from its Scientific, Technical and Economic Committee for Fisheries (STECF). STECF was created in 1993 and is composed of independent scientists and experts (including economists). STECF produces an annual report on the current status of fisheries resources and their future potential, which is used as the basis for setting annual TAC and quotas. On biological issues, STECF depends to a great extent on advice from the International Council for the Exploration of the Sea (ICES) for the North-East Atlantic, North Sea and Baltic Sea. The advice provided by ICES includes stock assessments and deeper analysis on more long-term proposals on how fisheries in European waters can be managed sustainably. STECF also provides advice, where necessary in association with national researchers and *ad hoc* consultation groups, for fisheries in the Mediterranean and the Black Sea, which ICES does not cover.

ICES works by comparing and cross-referencing data acquired in different ways from a range of sources. Some of the information is provided by fishers, some comes from dedicated research vessels, and some is provided by the fisheries authorities in the ICES member states. All the European states have major sampling and data collection programmes in place to evaluate catches and landings specifically for research purposes.

The EU directly supports these programmes through its Data Collection Regulation. Since 2001, the EU also provides substantial financial support for national data collection programmes. Under the first Data Collection Framework (DCF), which ran from 2000 to 2008, the EU provided about EUR 30 million per year in financial support. A new framework covering the period 2009-13 is now allocated around EUR 50 million a year²⁹.

However, in spite of these means, reliable scientific information (allowing for knowledge-based management) is available for just 45% of these 208 commercial stocks. The situation is even worse for the Mediterranean, although this is partly explained by the fact that there are no TACs set at EU level.

Furthermore, according to the Communication from the Commission "*Consultation on Fishing Opportunities for 2011*"³⁰, the number of stocks the state of which is unknown

due to poor data has been steadily increasing for the period 2003-2010 (from 48 to 60 stocks in the North-East Atlantic and adjacent waters). This can be explained on grounds of insufficient compliance: missing data about real catches and landings. Calculations done for this IA confirm these figures: reliable scientific advice exists for around 30% of all EU stocks, most of them in the Atlantic Ocean, and the North and Baltic Seas. Out of 102 stocks in the Atlantic, there is no assessment for 42 stocks and incomplete information exists for a further 21. In the Mediterranean, there is advice for just 21 out of 60 stocks³¹. The following table gives an insight into the assessment status of the sample of 136 EU stocks considered in this IA³².

Table 3 - Assessment status of stocks covered by the IA

	<i>Assessed stocks (known Fmsy or F0.1)</i>	<i>Weak assessment stocks (known Fmsy or F0.1)</i>	<i>Assessment close to completion (still great data requirements)</i>	<i>Non-assessed stocks (no information on the stock and/or little commercial interest)</i>	<i>Total number of stocks</i>
“northern” stocks (ICES assessments)	32	20	13	24	89
“deepwater” stocks (ICES assessments)			26	3	29
“southern” stocks (SGMED assessments)	9	6	2 ³³	1	18
Total					136

(a) Source: 2009 ICES and SGMED reports

The process of delivering scientific advice is complex, lengthy and expensive. The situation of the "deepwater stocks" illustrates the point. The identified stocks can be divided into two groups, i.e. the group for which there are some data, yet still insufficient to support a stock assessment exercise (26 species), and the group for which there are no data whatsoever (3 species). Even for first, good mortality, growth, maturity and recruitment data are rarely available³⁴. Assessments often rely on simple indicator based approaches that track resource status over time. For some of these species (deepwater sharks, argentinines, forkbeards), most likely sufficient information will not be available within the timeframe of the CFP reform. Only through a significant increase in the data collection effort targeting these species in particular could improvement be achieved³⁵.

Furthermore, the lack of implementation of the precautionary approach works as a disincentive to address this issue: if TACs are higher in the absence of clear scientific evidence, then MS have little incentive to improve such evidence.

The new data collection framework³⁶ requires MS to collect data on fleets and their activities, biological data covering catches, including discards, survey information on fish stocks and the environmental impact that may be caused by fisheries on the marine ecosystem. It also includes data on the economic situation of fishing enterprises, aquaculture and the processing industry, and of employment in these sectors. The official data obtained in this way are published in the yearly Annual Economic Report (AER)³⁷. However, economic and social data appear with a two year delay, and are incomplete (or even non-existent) for a significant number of MS. These shortcomings complicate the analysis of economic situation of fleets, processing and aquaculture and fishing dependent communities. The collection of processing data started only in 2009 and that of aquaculture data in 2010.

2.2. The lack of economic sustainability

2.2.1. Low economic profitability³⁸

As regards total production, the EU is the fourth main world producer of fisheries and aquaculture products behind China, India and Peru, with 4.6% of the world catches and aquaculture in 2007. As shown in the table below, internal production in 2007 was 6.4 million tonnes, 3% less than in 2005 (-3.4% for catches, -2.7% for aquaculture). The catching sector stands for around 80% of EU production and aquaculture for 20%. The main producers among MS are ES (16%), FR (12%), UK (12%) and DK (11%).

Table 4 - Total production of the EU fisheries sector in 2007

Country	Total production 2007 Tonnes	Catches	Aquaculture	Total production 2005 Tonnes	Catches	Aquaculture
<i>Spain</i>	1020908	735926	284982	1005788	710897	221927
<i>France</i>	795313	557862	237451	853669	582846	258480
<i>UK</i>	790687	616487	174200	787629	615780	172813
<i>Denmark</i>	684181	653013	31168	895750	867844	39012
<i>Italy</i>	467631	286643	180988	485625	312047	180943
<i>Netherlands</i>	467011	413640	53371	473985	433235	68175
<i>Germany</i>	293758	248763	44995	316721	279040	44685
<i>Ireland</i>	279650	227146	52504	263792	210670	60050
<i>Portugal</i>	260504	253033	7471	235875	229094	6485
<i>Sweden</i>	243619	238254	5365	276804	269255	5880
<i>Greece</i>	208266	95078	113188	209869	96695	106208
<i>Lithuania</i>	190874	187496	3378	155336	153111	2013
<i>Poland</i>	180271	144404	35867	158934	123067	36607
<i>Finland</i>	177404	164373	13030	158936	146045	14355
<i>Latvia</i>	156001	155272	729	140955	140389	542
<i>Estonia</i>	100225	99447	778	87605	86902	555
<i>Czech</i>	24723	4276	20447	25077	4646	20455
<i>Belgium</i>	24667	24539	128	25769	22519	1200
<i>Hungary</i>	22946	7024	15922	22229	7543	13661
<i>Romania</i>	16497	6184	10313	15772	6664	7284
<i>Bulgaria</i>	13307	8876	4431	10806	7545	3145
<i>Malta</i>	9834	1245	8589	8513	1348	736
<i>Cyprus</i>	5425	2225	3200	5705	2098	2333
<i>Slovakia</i>	4071	2872	1199	2981	1718	955
<i>Austria</i>	2889	350	2539	2866	360	2420
<i>Slovenia</i>	2465	1111	1354	2500	1133	1536
TOTAL	6443127	5135539	1307587	6629491	5312491	1272455

Source: Eurostat

In value terms, the catching and aquaculture sector represented 0.1% of the EU GDP in 2005. This figure for Norway was 0.7% in 2006, more than 10% for Iceland, 0.4% for Japan, close to 1% for South Korea, 0.02% for USA and 0.4% for Australia³⁹. Most of the value generated in the EU is concentrated in a relatively small number of coastal regions and areas. For some regions⁴⁰, the contribution of the fisheries sector is quite important. For instance, it exceeds 2% of the regional GDP for the Highlands & Islands (UK), Galicia (ES), Ionia Nisia and Voreio Aigaio (GR)⁴¹. For some coastal areas it can be even higher: the average dependency in the socio-economic study⁴² is 11%.

In terms of consumption, EU demand has been growing in the last decade. This trend is expected to continue, taking into account the increase of fish consumption in Eastern and

Central Europe and the benefits for health associated with fish consumption. EU average consumption is 22.3kg/person/year, above the world average of 16.1kg/person/year, with significant variations from 4.2 kg in Bulgaria to 55.6kg in Portugal.

The EU-27 supply balance for fisheries and aquaculture products is around 13 millions tonnes in equivalent life weight for food consumption⁴³, with close to 2 million of exports and over 9 million of imports (in net weight terms this is 1.5 million exports and 5 million imports respectively). EU's internal production covers slightly less than 40% of the demand (68% in 1995). Hence, EU import dependence is increasing, which means that internal production faces strong competition from third countries. Competition is expected to further intensify in the future, with the progress of globalisation.

Catching sector

Annual Gross value added (GVA) for the catching sector was on average €3.73 billion over the period 2005-7. The three most important fleet segments are demersal trawl and seines of 12-24m (16% of EU GVA), pelagic trawls and seines of >40m (11%)⁴⁴, and passive gear 0-12m (11%). GVA per vessel has been diminishing. Furthermore, only about half of the fleet segments included in the AER had *break-even revenue ratios*⁴⁵ greater than one, which is an indicator of short term economic sustainability. Of the ten most important fleets in terms of GVA, only three have ratios greater than one. For the EU fleet as a whole, the average ratio over 2005-2007 is 1.01, with trends for most fleets that are stable or declining since 2003.

In terms of *net profit margin*⁴⁶ the SSCF, and fleets using passive gear, perform better than larger vessels and fleet segments using active gears⁴⁷. Between 2003 and 2007 profit margins slightly improved for most of the fleets. However, for many fleets, in particular pelagic and demersal trawlers and seiners, net profit margins remain poor and volatile.

The catching sector is highly vulnerable to external shocks, in particular to fuel price increases or first sale price decreases. Calculations show that in 2004 the EU fleets spent about €1 billion on fuel, i.e. 12-15% of total revenues, with prices ranging from 0.25 to 0.38€/litre. By July 2008, with fuel prices at 0.8€/litre, fuel costs were close to €2.3 billion/year, more than 30% of total revenues. The segments most affected were again the active gears. Fuel costs for beam trawlers were as high as 60-70% of total revenues⁴⁸.

The catching sector also does not appear to have sufficient market power to pass cost increases down the production and marketing chains. This is probably the result of a very fragmented supply which has to face an increasingly concentrated demand side, where big retail chains are taking the lead over traditional fishmongers. Furthermore, consumer habits are changing (processed products replace fresh fish). All these elements, combined with low levels of innovation and value added, increasingly globalised markets and high imports result in first sale prices of fish stagnating or even decreasing in real terms over the last years.

The market instrument of the current CFP is the CMO⁴⁹. Its recent evaluations⁵⁰ show its marginal impact. In particular, the effect on the first sale prices of yearly community guide prices has been negligible. Furthermore, the impact on competitiveness have been limited to upstream stages of the value chain, in particular the creation of producer organisations (POs) that now cover 57% of EU fishers. However, a large part of producers are not organised. Furthermore, the weak development of inter-branch organisations (IBOs) shows that it did not succeed in promoting business dialogue in the marketing chain. The concentration of landings of certain species within very short periods of time (due to seasonality or other reasons) often results in low first sale prices

and leads in some cases to withdrawals of products from the market. Finally the support for withdrawal does not encourage selective fishing operations.

*Aquaculture*⁵¹

Aquaculture's revenue is some €3 billion per year in the EU. It generally performs better than the catching sector. The most important species in value terms are seabream and seabass (20% of the total), followed by trout and salmon (19% and 17% respectively) and mussels (12%). These four (groups of) species represent 68% of the total value of production and 75% of the total volume. The UK, France, Italy, Greece and Spain account for 75% of the total EU production in volume and value terms.

The main challenge for EU aquaculture is that production has not increased in the last 15 years. Marine aquaculture increased by 20% (1996-2005), but fresh-water aquaculture decreased by 15% in the same period⁵². Stagnation of production is mostly due to limited space available for further development, efforts necessary to meet the requirements of EU environmental and sanitary legislation, and low levels of innovation necessary to compete on a global market. Most of these problems go beyond the scope of the current CFP. Aquaculture has negative environmental sustainability impacts related to water pollution by farms, use of antibiotics, the problem of escapees (farmed animals, usually genetically modified, escape from farms and mix and breed with wild stocks) and the fact that feeding the farmed (mostly carnivorous) species requires catching wild fish.

*Processing*⁵³

Processing is by far the most important economic activity linked to fisheries, with a value close to €22.5 billion (2007)⁵⁴. It also performs better than the catching sector.

While historically processing was established in the vicinity of local landings (primary processing), today secondary processing using imported raw material, including aquaculture is increasingly important. These activities create new opportunities in areas where the catching sector and primary processing are in decline.

EU trade policy, in particular the autonomous tariff regime is particularly important for the processing sector. It has two instruments (suspensions and tariff quotas) which together represent a lowering of tariffs for importers of raw material of some €50 million.

Ancillary services

The ancillary sub-sector comprises both upstream services (e.g. gear manufacturing and repair, boatbuilding, maintenance of port infrastructure, etc.) and downstream activities (e.g. transport and marketing facilities). Although some of these activities are not limited to the fisheries it is clear that the decline in the catching sector affects them as well. In places where other maritime activities coexist with fishing, or where activities within or beyond the sectors such as aquaculture, offshore windmills or tourism develop, the ancillary sub-sector is able to cope with this decline. In areas where the SSCF dominates, ancillary services are fragile with the aggravating factor that they often constitute an important source of employment for women

2.2.2. The dependence on public support

Although no precise figures are available, some estimates indicate that the overall size of direct and indirect public support by the EU and MS may represent on average close to 2/3 of the value of landings in the main EU fisheries. These estimates are confirmed by a research paper⁵⁵ showing that public aid granted to the fishing sector in France over the period 1990 to 2005 exceeded half of the total value of the national landings. According to a report⁵⁶ of the Swedish National Audit Office issued in November 2008, Sweden's direct and indirect spending on various schemes exceeds the value added of the fisheries

sector. EU's public financial support (FIFG and EFF) accounted for some 10% of the value of landings. In the context of this IA, the socio-economic study analysed the volume of public intervention in the case study areas as follows⁵⁷:

Table 5 - Levels of public intervention in the case study areas

	<i>Total Value public sector support to fisheries (Euro '000s) 2000-2007/9</i>	<i>Fisheries public intervention/ catching sector turnover</i>
<i>Stornoway (UK)</i>	3,200	9.5%
<i>Killybegs (EI)</i>	65,000	13.0%
<i>Lorient (F)</i>	18,410	5.3%
<i>Aveiro + Peniche (PT)</i>	80,000	22.4%
<i>Costa da Morte (SP)</i>	19,500	23.6%
<i>Celeiro/Viveiro (SP)</i>	47,300	9.6%
<i>Amvrakikos (GR)</i>	47,883	16.8%
<i>Oristano (I)</i>	2,018	38.2%
<i>Sète (F)</i>	18,806	1.8%
<i>Mazara del Vallo(I)</i>	59,000	8.4%
<i>Carboneras (SP)</i>	16,000	11.9%
<i>Danube Delta(RO)</i>	4,000	457.1%
<i>Hirtshals</i>	7,100	
<i>Grimsby (UK)</i>	8,364	21.7%
<i>Urk (NL)</i>	10,620	2.6%
<i>Lake Peipsi (SF)</i>	8,570	
<i>Wladyslawowo (PO)</i>	22,528	55.0%
<i>Darlowo (PO)</i>	12,832	305.5%

The main objective of the FIFG/EFF is to contribute to the CFP objectives. However, the instrument has lacked comprehensive mechanisms assuring the implementation of these objectives. This problem is the result of three facts. First, most of the EFF is allocated to MS in accordance with convergence criteria equivalent to those under other EU structural funds. As a result, there is little relation between the support received and the size of the fisheries sector. Second, once the EFF Operational Programs are approved and the funds have been allocated, the Commission has limited power to intervene in their implementation, to ensure their contribution to the objectives of the CFP, in line with the agreed strategy. Finally, as explained in Section 2.1.1 above, a part of FIFG/EFF support takes the form of direct fleet subsidies, thus contributing to the maintenance of overcapacity and preventing the transition to economically sustainable fisheries – as economic operators tend to factor this support into their economic activities.

The socio-economic study insists that in many cases the public support in its current form has not achieved its objectives. First, while it is certainly true that public support in some areas has reduced fleet capacity, such reductions do not seem to impact to a larger degree the overall balance of capacity and fishing opportunities. Second, the impact of subsidies focussing on infrastructure has been mixed: a number of areas display infrastructure developments that are not being fully utilised. Actually, stakeholders in many of these regions are asking for changing the focus of public financial support towards adding value to the local product and to intensify the effort towards diversification beyond the catching sector to other activities within or outside the fishing sector.

2.3. The lack of social sustainability

Total employment in 2005 in the fisheries sector of the EU-27⁵⁸ amounted to some 407,000 persons⁵⁹. Spain, France, Italy and Greece accounted for 51% of the total EU employment in the sector. The catching sector employed 187,000 people (46% of total)⁶⁰, fish processing 138,000 (34%) and aquaculture 63,000 (16%). Employment in ancillary activities was estimated at 18,000 jobs (4%). These figures also show the small size of the sector in terms of total employment (less than 0.2% of total EU employment), although there are significant differences between MS from 0.04% in Belgium and Germany to 1.53% in Greece. Another feature of the sector is the high importance of part-time work (around 40% of the total workforce), particularly in the catching sector and in the SSCF.

There are also significant differences between regions: the fisheries sector represented 0.8% of total employment in Brittany in 2008 (four times the French average) and 3% in Galicia in 2009 (ten times the Spanish average). In Scotland, the fisheries sector accounted for 0.65% of regional employment (ten times the UK average). In Sicily it accounted for 0.56% of total regional employment in 2007 (2.5 times the Italian average).

Dependency on fisheries can still be higher at local level. In some areas of Galicia, fishers can represent up to 30% (Fisterra, Ribeira and Bueu) and even 60% (Arousa) of the total workforce. In Scotland, fishers account for 3.7% of the local workforce in Eilean Siar, Orkney and the Shetland region. In Killybegs (IE), employment dependency is as high as 68% while in Urk (NL) and Wladyslowo (PL) it is over 35%.

In terms of all sea related sectors, the fisheries account for less than 10% of employment⁶¹ and are second largest activity behind coastal tourism (more than 50% of all sea related employment) and ahead of maritime transport (303,000 jobs in 2005).

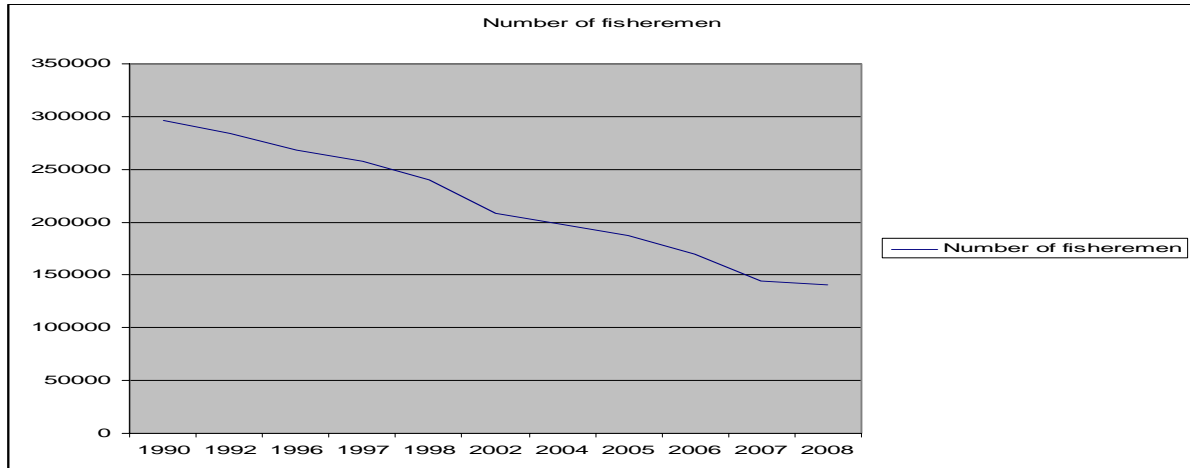
The latest available data or 2007, indicate that total direct employment had further decreased to 354,715. Employment in the catching sector has declined by 31% since 2002⁶². As shown in Figure 3, the rate of decrease is close to 4-5% per year since 1996/1997⁶³.

Table 6 - Number of employees in the various fisheries sectors (FTE)⁶⁴ in 2007

Country	Capture fisheries	Process industry	Aquaculture	Direct employment	Ancillary activities	Total fisheries	% over total national
<i>BEL</i>	501	993	100	1594	200	1794	0,04%
<i>CYP</i>	747	100	200	1047	100	1147	0,31%
<i>DEU</i>	1617	6925	6623	15165	300	15465	0,04%
<i>DNK</i>	1925	4428	679	7032	600	7632	0,28%
<i>ESP</i>	35274	22,5	4068	61842	1500	63342	0,31%
<i>EST</i>	3367	2103	100	5570	1000	6570	1,04%
<i>FIN</i>	1782	756	423	2961	0	2961	0,12%
<i>FRA</i>	12,48	23,24	11449	47169	2900	50069	0,20%
<i>GBR</i>	8096	16041	2329	26466	1500	27966	0,06%
<i>GRC</i>	24745	3700	12798	41243	2200	43443	1,53%
<i>IRL</i>	3838	3500	2081	9419	1200	10619	0,51%
<i>ITA</i>	25426	15500	5523	46449	2500	48949	0,21%
<i>LTU</i>	744	4632	356	5732	1000	6732	0,63%
<i>LVA</i>	1632	7400	300	9332	800	10132	0,67%
<i>MLT</i>	1300	0	100	1400	100	1500	0,96%
<i>NLD</i>	1953	3120	186	5259	600	5859	0,07%
<i>POL</i>	2588	14,149	2610	19347	200	19547	0,13%

PRT	14445	6301	4089	24835	1200	26035	0,54%
SVN	110	200	300	610	0	610	0,06%
SWE	1879	1867	297	4043	300	4343	0,10%
Total	144,449	137,455	54,611	336,515	18,200	354,715	0,18%

Figure 3 - Evolution of employment in the catching sector. Source AER and DG MARE



In the same period, aquaculture employment decreased by 16%. As regards processing, employment decreased by 6.5%. This smaller rate is related to the fact that secondary processing is much less affected by the availability of locally caught raw materials.

The rapid decrease in catching sector employment can be explained by the reduction of fleets and by the technical progress, which allows a reduction in crew numbers. At the same time, however, the socio-economic study highlights the lack of sufficient recruitment into some fleets in a significant number of coastal areas. This would explain why the number of non-EU crews employed onboard industrial vessels is significantly growing and are estimated to be between 5 and 10,000⁶⁵. Hiring foreign crews may be driven by the need to reduce labour costs. However, the main reason seems to be the lack of local crews. This indicates that not only jobs are being lost; in addition, young people in fisheries areas do not find the fisher's occupation attractive enough⁶⁶ due to the combination of relatively low wages and difficult, hazardous working conditions. Data from some of the coastal areas in the socio-economic study show that locals who apply for jobs as crew are often the least skilled ones who have no other alternative.

Wages in the catching sector vary across MS but, generally speaking, remain well below national averages. This is the case of Cyprus, Spain, Estonia, France, Greece, UK, Latvia, Poland, Portugal and Sweden. The trend over the last few years is negative.

Fishing is, by definition, a risky activity. Injuries and fatalities are significantly higher than elsewhere, including construction. Although, the number of injuries has been reducing over the last ten years, the fatality rate has remained constant. Lack of sufficient professional training and re-training, in particular as regards the SSCF, and poor maintenance of equipment are considered to be the two main causes of injuries and fatalities. The legislation in force applies only to fishing vessels longer than 24m. As a result, more than 90% of the EU fleet⁶⁷ is excluded from any social legislation. Seafaring workers (including fishers) are either excluded from the scope of EU's labour legislation or the legislation permits MS to do so⁶⁸.

Employment in processing is as important as that in the catching sector. Wages in the processing sector, with some exceptions, are lower than those in the catching sector and, by the same token, lower than national averages. However, the lower decrease observed

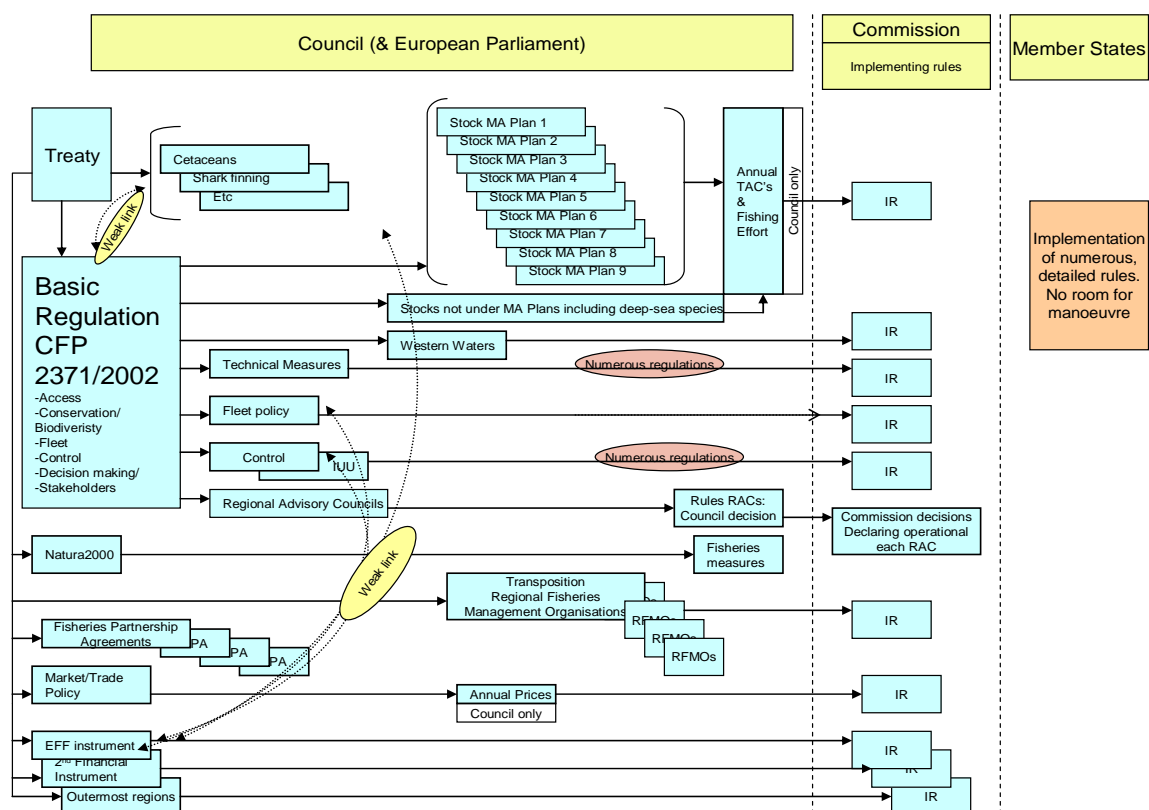
in the processing seems to indicate that it is perceived as more attractive than the catching sector, in particular for women. The main issue for the processing sector is the delocalisation of processors to areas outside the EU with a better access to raw materials and lower labour costs.

Aquaculture is becoming increasingly technologically efficient. Unless there is a very significant increase in EU production, most likely the increase in capital intensity would have downward impacts on employment in the future.

Regarding the future of coastal communities dependent on fisheries, it seems that supply and demand for fish might be concentrating in fewer areas, which fosters also the similar concentration of ancillary activities and services to fisheries and trade. The end result may be an increasing imbalance between a few areas which prosper and many others where fisheries activities could be entering a downturn spiral, in spite of significant amounts of public support (both national and EU) invested in these areas. Although there are some success stories, in most communities analyzed in the socio-economic study the importance of fishing has been declining for some time already. In that context, new activities are developing, with different degrees of success: Port facilities, food processing, (eco)tourism and heavy industry, renewable energies and oil & gas.

2.4. The CFP has a very complex legal structure

Figure 4 - The current legal framework of the CFP



The figure provides a view of the current CFP. It is an extremely complex structure difficult to understand. This makes full compliance by stakeholders difficult which negatively affects stakeholder responsibility. Obligations are sometimes scattered in different pieces of legislation (particularly in the area of technical measures). In other cases the principles are weakened by multiple exceptions and exemptions regarding fishing gears, type of vessel, and period of the year or nationality. Clear examples are the Shetland and Plaice boxes⁶⁹, which do not seem to have performed as expected, either in environmental or in economic and social terms. Finally, not all pillars of the CFP are

covered by the Basic Regulation. This is the case for the external dimension which is directly based on the Treaty.

A clear example of this complexity is 'Annex II' to the annual TAC and quota regulation. Beyond the duplication of instruments (catch and effort limitations) to regulate a given fishery, this Annex II contains a long list of derogations and special conditions, which make the legislation complex, incomprehensible and difficult to control.

Another structural problem is that the current CFP lacks mechanisms that allow to automatically incorporating environmental considerations (e.g.: Natura 2000 sites). Ad hoc concrete actions have to be developed instead.

2.5. The external dimension

The external dimension refers to the management of vessels that have access to resources whose management is beyond the jurisdiction of the Council of the EU. The most recent analysis of the EU external fleet identified 718 vessels⁷⁰ included within its scope. While this number is low (0.8%) in relation to the total EU fishing fleet, it represents 24% of its fishing capacity expressed in tonnes. According to this analysis, the external fleet catches approximately 21% of the EU's total catch quantity for human consumption; this figure is higher for some species and exceeds 90 % for tuna and related species.

Fishing possibilities are obtained in accordance with either Fisheries Partnership Agreements (FPAs), concluded bilaterally between the EU and individual third countries or access rights granted by Regional Fisheries Management Organisations (RFMOs).

FPAs establish a legal, economic and environmental framework for fishing activities carried out by EU fishing vessels in the waters of third countries which are not in a position to fully exploit their fish stocks by themselves. Fishing vessels from EU member states get access to a certain share of the surplus stock in exchange for a financial contribution by the EU to the third country. The status of the stocks and the size of the surplus are assessed on the basis of data collected by RFMOs (for tuna and related species) and/or in the framework of joint scientific committees set up in the framework of FPAs. Prior to each (re-)negotiation of an agreement or its protocol, the EU also commissions an external evaluation study which includes an assessment of the status of relevant stocks. Ultimately it is up to the third country to set the limits for access of the EU fleet to its marine resources, as concerns quantity of fish to be caught, technical conditions (e.g., gear type), and fishing zone. Once negotiations are concluded, on a proposal of the European Commission and with the consent of the European Parliament, the Council decides on concluding an agreement (which sets up the legal and institutional framework) and its protocol (which contains all the relevant details on fishing activities and payments). At present there are 15 FPAs which are "active" (i.e., they have a protocol in force or ready to enter into force); they involve mostly developing countries from the ACP group, as well as Morocco and Greenland.⁷¹

All FPAs negotiated since 2004⁷² have not only a commercial but also a development dimension. One part of the EU's financial contribution to partner countries is earmarked for support to the development of a sustainable local fishery policy, and the other part – non-earmarked – corresponds to the cost of access rights in the third country's exclusive economic zone. The EU's financial contributions allocated to sector support represent on average 24% of the EU's total financial contributions.

In cooperation with the third country's authorities, the EU closely monitors the implementation of the Agreements, i.e. through the establishment of a joint committee and a scientific committee that allow constant assessment of the development of fisheries

and of the sector's activities, by means of the definition of annual and multiannual matrices of fisheries support with objectives and indicators.

During the period 2004-2008, vessels fishing under a FPA represented 4% of the EU fleet in number and 14% in capacity; their annual catches amounted to 400,000 tonnes per year and €443 million per year in value, i.e. on average 8% of EU catches in weight and 6% in value. Although the global impact of these volumes is marginal when compared to the demand of the EU markets, catches by tuna vessels in particular have a significant effect in securing the supply of processing plants and creating employment at EU and third country level. In addition, FPAs represent job opportunities on board, both for fisheries-dependent areas of the EU (2,300 jobs) and our partner countries (4,800 jobs).

The latest generation of FPAs has contributed to improving the implementation of fisheries policies in partner countries, through support of activities in areas such as science, monitoring, control and surveillance, as well as infrastructure. In addition, they provided a transparent legal framework for the EU external fleet to fish in third country waters and allow control of its the presence and activities there. In fact, the EU is the only entity worldwide that makes public the details of the agreements. Finally, FPAs improve governance and promote the principles of sustainable and responsible fisheries globally because they allow only exploitation of surplus stocks and offer support to the third countries' capacities to promote responsible fishing in their waters. FPAs can support decisions taken at the level of RFMOs and favour enhanced regional cooperation initiatives between the different partner countries, as this is the case with the Regional Surveillance Plan for Fishing Activities in South-West Indian Ocean.

However, current FPAs still have significant shortcomings, too. The commercial part of FPAs results in EU fleets being accused of having a "fish, pay and go" attitude, while EU operators are considered to benefit from subsidies through the FPAs. Their cost is considered too high, in the case of "mixed" (multi-species) agreements, while third countries complain that the price paid, especially for tuna agreements, is too low. The actual utilization of fishing possibilities is often lower than expected, which results in the EU budget "overpaying" for quantities actually fished.⁷³ There also seem to be serious problems of absorption capacity in recipient countries which results in a backlog of unspent EU funding in certain agreements.⁷⁴ In other cases the sectoral support is too small to have any real impact. The modalities for the delivery of sectoral support under FPAs are currently not always *stricto sensu* in line with modalities generally applied to budget support, even if the EU's financial contributions (earmarked and non-earmarked components) are released to the single treasury accounts of the beneficiary countries and these contributions are programmed in the budgets and fiscal laws of partner countries. Finally, the application of the surplus principle has in some cases been hampered by a lack of up-to-date stock assessments, and it has not always prevented concerns about the environmental impacts of FPAs, or impacts on local fishermen.

Regional Fisheries Management Organisations or Arrangements (RFMOs) are international bodies established to ensure the conservation and sustainability of fishery resources in the high seas. Under the Law of the Sea Convention, there is freedom for all to fish in the High Seas. However, this freedom carries the duty for those who fish to cooperate in taking such measures as may be necessary for the conservation of the high seas living resources. RFMOs provide the formal framework for the required cooperation on a multilateral basis. Their role has been expressly recognised in the most recent instrument of the International Law of the Sea on fisheries: the 1995 UN Fish Stocks

Agreement (UNFSA) for the implementation of the provisions of the UN Convention on the Law of the Sea to the conservation of straddling stocks and highly migratory stocks.

RFMOs are composed of States, Regional Economic Integration Organisations (the EU) and fishing Entities that have an interest in the relevant regional fisheries. They discharge their obligation as to the conservation and management of the resources by regulating the fisheries (except when they are merely advisory bodies) on the basis of scientific and technical advice provided by a Scientific Committee and other technical subsidiary bodies to which Members' experts participate. The main RFMO body (generally a 'Fisheries Commission') decides on measures, generally by consensus of Members, or as in the case of some RFMOs by majority voting, and are generally subject to an ex-post objection procedure. The Conservation and Management Measures so adopted are binding on RFMO Members (except for those who objected). For the EU, this means that RFMO measures must be enacted into EU law. The EU participates in 5 Tuna RFMOs, 8 Non-Tuna RFMOs and 3 advisory bodies and has signed the Convention establishing a new Non-Tuna RFMO in the South Pacific (not yet in force).

The main weakness of the RFMO performance is that they have not reversed the decline in international fish stocks. Such a trend has been experienced for several decades. According to the last assessment made by the FAO⁷⁵, of the straddling stocks for which the state of exploitation is known, nearly 66% are overexploited, depleted or recovering and 23% are fully exploited. Of the tuna and tuna-like stocks for which the state of exploitation is known, 30% are overexploited or depleted and 53% are fully exploited. With respect to the shark species with a known state of exploitation, more than 60% are potentially overexploited or depleted⁷⁶.

The 2010 Review Conference on the UN Fish Stocks Agreement⁷⁷ recommended that stakeholders commit themselves on an urgent basis to improving, through effective conservation and management measures, the status of straddling fish stocks and highly migratory fish stocks that are overexploited or depleted⁷⁸.

There are various factors responsible for the underperformance of RFMOs. For example, overcapacity is an important driver of overfishing in areas managed by RFMOs and can be worsened by the legitimate wish by many developing countries to develop their fishing sector. In that respect, as part of the so-called Kobe Process, in a workshop in June/July 2010 the five tuna RFMOs recommended reviewing existing capacity against the best available scientific advice on sustainable levels of catch and implementing measures to address it. It was recommended that each tuna RFMO consider a freeze on fishing capacity on a fishery by fishery basis, which should not constrain the access, and benefit from sustainable tuna fisheries by developing coastal States⁷⁹.

Another important problem of RFMOs is the lack of compliance and control which has undermined their role in fisheries management, and, to an extent, has driven some of the main players (EU, USA) to complement multilateral actions with unilateral ones. The responsibility for compliance and control lies ultimately with flag states which may be unwilling (the issue with flags of convenience) or unable (lack of capacity, especially in developing States) to properly control their fleets and ensure compliance with RFMO Conservation Measures. The EU has resorted to various ways of dealing with this pertinent issue, from banning imports into the EU market of fishery products caught illegally (i.e. not in compliance with relevant Conservation Measures) (Regulation 1005/2008), through funding capacity building in developing States (particularly those in the Indian Ocean) to attempting a harmonisation of measures across different regions (e.g. for tuna fleets). Despite some progress achieved in recent years, more efforts must be made to address this issue.

Other factors that may prevent RFMOs from fulfilling their duty of sustainable conservation and management of fish stocks include the fact that the conservation and management measures adopted by these often do not strictly follow the scientific advice. In this respect, two main problems must be highlighted. Firstly, the consensus model of decision-making which prevails in many RFMOs, renders it impossible to adopt any measure to which even one Contracting Party objects. The reform of the decision-making process in many RFMOs is therefore of crucial importance, even if taking decision by consensus always remains the most preferable option. Secondly, the scientific advice delivered is often marred by uncertainty; due to lack of timely data and extensive research – this fundamental issue also needs to be urgently addressed.

The conservation and management of resources under the Regional Fisheries Management Organisations and the Fisheries Partnership Agreements overlap in some areas, mainly in terms of provision of scientific advice, management of highly migratory stocks and the activities of the fleet.

Scientific advice developed for and by some of the RFMOs, most notably the tuna ones, such as ICCAT, IOTC and WCPFC usually also serves for assessment of the stocks fished under the FPAs in the waters of specific RFMO Members (e.g. Ghana for ICCAT, Seychelles for IOTC, Kiribati for WCPFC). This is due to the fact that the management measures adopted in those RFMOs either apply also to the EEZs as their Convention areas cover both high seas and territorial waters (ICCAT, IOTC), or that measures adopted in national EEZs should be compatible with RFMO measures (WCPFC) due to the highly migratory nature of the stocks in question. Therefore, decisions taken at RFMO level have a direct impact on the fisheries in the EEZs, including those under the FPAs. In this respect the issue of compatibility of measures adopted by RFMOs with measures adopted in EEZ of developing coastal States raises a delicate balancing exercise between internationally agreed measures for the high seas and sovereign rights of developing States.

Furthermore, many fleets targeting both for tuna and non-tuna species tend to shift their activities between RFMO and FPA waters, e.g. between NAFO and Greenlandic waters, South Pacific RFMO and Morocco/Mauritania. It is therefore clear that any change in the management or fishing opportunities in one area will have a direct impact on the other, as the fleets are able to react relatively swiftly in the pursuit of the most profitable fisheries under most favourable conditions.

2.6. External factors: Integrated Maritime Policy, pollution and climate change

It is evident that the fisheries sector, and hence the CFP, belong to the maritime economy at large. The Commission is developing an Integrated Maritime Policy (IMP) which should be better integrated with the CFP. However fostering that integration goes beyond the CFP and will be addressed in the reform of the EFF from the perspective of the IMP.

There are other problems which affect the environmental, economic and social performance of the fisheries sector, but which are largely exogenous to it. In the first place, fishing, aquaculture and the processing sector contribute to CO₂ and other emissions. The extent to which this might be the case is unknown. The only element that can be referred to is that the new draft taxation directive maintains the current exemption from taxes of fuel for fishing operations.

Due to climate change the spatial distribution of some species is changing. One example is red mullet, a warm water species, which in the last years has been increasingly fished around the UK. Extensive changes of the spatial distribution of species may create winners and losers among coastal communities, change the fishing behaviour of fleets

and their profitability, and may challenge the current relative stability keys for the migrating stocks. However, no reliable data is available to carry out any systematic quantitative analysis.

3. THE JUSTIFICATION OF THE CFP REFORM

3.1. Who is affected by the CFP and how?

A successful CFP reform will have long-term benefits for all its stakeholders, but the implications, impacts and time horizon may differ for some of them. As a framework for this assessment, the main stakeholders and their primary interests have been identified as follows:

Table 7 - Key stakeholders in the EU fishing industry

<i>Stakeholder</i>	<i>Description of stakeholder</i>	<i>Key interests</i>
<i>Catching sector in the EU</i>	EC vessel owners, operators and crew.	Maintaining profitability and livelihoods.
<i>Dependent businesses & communities</i>	Business and communities dependent upon fisheries for their livelihoods.	Maintaining profitability and livelihoods.
<i>Processing sector</i>	Those processing raw material both imported and caught within EC waters	Maintaining profitability and livelihoods, stable supplies.
<i>Sector regulators</i>	National, regional and local bodies regulating fishing	Ensuring an efficient, effective and practical management framework that balances a wide range of stakeholder needs.
<i>Sector research</i>	Scientific research bodies contributing to the conservation and management of stocks	Contribution to an effective fisheries management regime through the timely access to high quality, robust data from fishery dependent and independent sources.
<i>Consumers</i>	Those consuming fisheries products	Availability, cost, quality and nutritional values of fisheries products with varying degrees of environmental scrutiny.
<i>Third countries</i>	Fishing sector in competition with EU fleets. Aquaculture producers, exporters to the EU. Authorities in third countries receiving payments under FPA or private agreements	Conflicting interest between those who see the EU as a very important export market and as a source of revenue and small local fishing communities that face competition from external fleets of the EU on access to local resources.
<i>NGOs, the civil society and EU citizens</i>	Non-governmental organizations advocating sustainable management of fisheries. The wider public with an interest in and concern for fisheries and the marine environment	To maintain fish populations, marine biodiversity, and the amenity value of oceans, rivers and lakes.

3.2. The right for the EU to act and the measures taken so far

According to Article 3 (1d) of the Treaty of the Functioning of the EU (TFEU), the Union shall have exclusive competence in the conservation of marine biological resources under the CFP. According to Article 4 (2d) the Union has shared competences for the rest of the CFP. Large parts of the policy areas (e.g. aquaculture) fall within shared competence. For such matters, legislative initiatives of the EU must meet not only the proportionality principle, but also the subsidiarity principle. The latter requires a compelling justification of added value of action at EU level vis-à-vis action at national level(s).

The last reform of the CFP took place in 2002 and was implemented by Council Regulation (EC) N° 2371/2002 of 20 December 2002 on the conservation and exploitation of fisheries resources under the Common Fisheries Policy.

Article 35 of the Basic Regulation contains a specific provision for a review by 2012 with respect to *Chapters II [Conservation and sustainability] and III [Adjustment of Fishing Capacity] before the end of 2012*". However, the conclusion of the Court of Auditors⁸⁰ as well as an internal assessment of the current CFP led the Commission to

propose a "whole-scale and fundamental reform of the CFP"⁸¹. Furthermore, the new decision-making process introduced by the Treaty of Lisbon calls for a reshape of the whole framework.

4. OBJECTIVES OF THE CFP

4.1. The objectives of the CFP according to the Treaty

The **objectives** of the CFP are set up in articles 3 (d) and 39 of the Treaty of the functioning of the EU (TFEU). Article 11 TFEU is also relevant as it mandates that environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, with a view to promoting sustainable development.

According to Article 3(d), the Union shall have exclusive competence in the conservation of marine biological resources under the CFP. According to Article 39, the objectives of the CFP shall be:

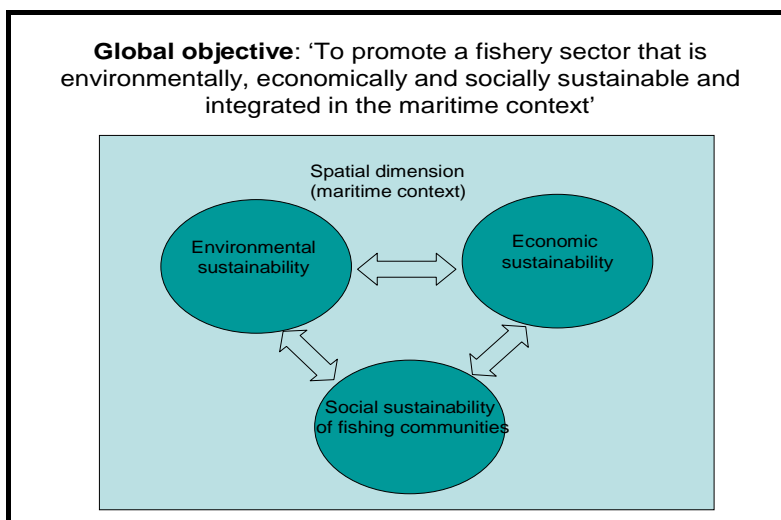
- to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour;
- to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture;
- to stabilise markets;
- to assure the availability of supplies;
- to ensure that supplies reach consumers at reasonable prices.

Objectives under Article 39 are the same as those for the CAP. However, the same Article of the Treaty allows understanding these objectives in the context of the specific characteristics of the fisheries sector. Thus, these objectives need to be adapted and extended, in particular in the area of conservation of the stocks.

Furthermore, according to Article 208 TFEU the Union shall take account of the objectives of development cooperation in the policies which are likely to affect developing countries.

4.2. The general objectives of the reform

Figure 5 - the objectives of the CFP



The reformed CFP shall aim at achieving environmental, economic and social sustainability as regards the exploitation of fisheries resources. In other words: *The CFP*

shall ensure exploitation of living aquatic resources that ensures environmental, economic and social sustainability. From a legal perspective, these three are equally important objectives. This is in line with the ecosystem approach⁸² which is: "...an instrument to pursue sustainable development in its three dimensions,[...] namely environmental protection, social equity and cohesion and economic prosperity...".

None of these three objectives can be achieved in isolation from the rest. However, environmental sustainability is the keystone for the success of the CFP. This is consistent with the view in the Green Paper that "ecological sustainability is [...] a basic premise for the economic and social future of the European fisheries" and is also supported by the external analysis prepared for this IA, according to which: "*without more marked improvements in stock status, economic and social sustainability will remain limited*"⁸³. The problem definition has outlined the poor situation of many stocks. Solving that problem will require immediate action to ensure that fishing pressure becomes aligned with environmental sustainability. The majority of stakeholder' views are in line with the urgency of such action.

4.3. Specific objectives

Table 8 - The specific objectives of the CFP reform⁸⁴

Problems	Specific objectives
<p><u>Lack of environmental sustainability: Overfishing</u></p> <ul style="list-style-type: none"> • Overcapacity. • A policy characterised by micromanagement at the central level and by the lack of prioritisation of objectives. • The existence of discards. • Relative Stability. • Insufficient scientific and economic data <p><u>Lack of economic sustainability</u></p> <ul style="list-style-type: none"> • Economic performance indicators for mane fleet segments are decreasing. The same goes to ancillary services. Processing and aquaculture perform better, but aquaculture production stagnates. • The catching sector is very vulnerable to external shocks • The CMO has been ineffective Public financial support has not improved economic performances <p><u>Lack of social sustainability</u></p> <ul style="list-style-type: none"> • Employment declines, particularly in the catching sector,. • Employment in the catching sector is not attractive for locals. • Some fisheries-dependent coastal communities decline. <p><u>A very complex framework</u></p> <ul style="list-style-type: none"> • Makes compliance difficult and reduces industry responsibility • Difficult to automatically incorporate environmental considerations <p><u>An external dimension of CFP less effective than expected</u></p>	<p><u>Environmental sustainability</u></p> <ul style="list-style-type: none"> • To eliminate overfishing in the short term. • To reduce overcapacity and discards as much as possible. • To put in place a decision-making system consistent with long term sustainability, • flexible and adaptable to local conditions • To improve responsibility and compliance by the industry. • To improve the availability of scientific advise and economic data <p><u>Economic sustainability</u></p> <ul style="list-style-type: none"> • Increase the long-term resilience of the sector. • Reorient public financial Support towards innovation, value added and marketing. <p><u>Social sustainability</u></p> <ul style="list-style-type: none"> • To increase the quality of employment (wages, safety and working conditions) • To make it an attractive source of employment. • To give alternative development options to coastal communities. <p><u>A better governance</u></p> <ul style="list-style-type: none"> • Simplify the CFP • Foster regionalisation <p><u>A more efficient dimension of the CFP</u></p> <ul style="list-style-type: none"> • To review the division of the costs of access to third countries' waters between public and private actors and

<ul style="list-style-type: none"> • Weak link between FPAs and sustainable fishing in third countries and • Lack of governance in the RFMOs <p>Factors beyond the CFP: Integrated Maritime Policy, Pollution, climate change</p>	<p>to decouple the allocation of sectoral support to third countries from the fishing opportunities in their waters</p> <ul style="list-style-type: none"> • To improve international governance of RFMOs in order to achieve sustainable management of fish stocks, by 2020 with overcapacity reduced to levels commensurate with fishing opportunities, improved and streamlined compliance and control, reliable scientific advice and efficient decision-making (while maintaining consensus as the most preferable way of taking decisions).
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4.3.1. Environmental sustainability

As stated above, *environmental sustainability* determines economic and social sustainability. Achieving that objective in the short term, together with the specific objectives in the conservation field detailed below will inherently improve the economic and social situation of the sector, in particular in the long term.

Environmental sustainability has to be understood as the exploitation of stocks in such a way that their future exploitation will not be prejudiced. As already stated, this is understood as exploiting stocks applying a fishing pressure consistent with their MSY, "with the aim of achieving these goals for depleted stocks on an urgent basis, and where possible not later than 2015"⁸⁵. Achieving environmental sustainability will also ensure compliance with the obligation that marine environments attain good environmental status by 2020, set up in the Marine Strategy Framework Directive⁸⁶ and with the recent commitments made in Nagoya during the CBD COP-10 on the sustainable management of fish and invertebrate stocks. This will be translated in the content of different options by achieving mortality levels compatible with MSY within the timeframe of the reform, and by 2020 at the latest.

All the sectors within the production and distribution chain for seafood products in the EU have to contribute to the achievement of these objectives. This is the case for the external dimension. This is also the case for aquaculture, which needs to minimise its impacts on the ecosystem and reduce the percentage of marine protein in fish feed. Finally, the impact of recreational fisheries on fish stocks would also need to be taken into account⁸⁷.

Specific objectives linked to achieving environmental sustainability: Achieving environmental sustainability requires not only exploiting stocks at levels consistent with MSY, but also actions addressing the problems identified above, in particular to:

- (a) Eliminate overfishing in the short term;
- (b) Reduce overcapacity and discards as much as possible;
- (c) Put in place a decision-making system consistent with long term sustainability, flexible and adaptable to local conditions;
- (d) Improve responsibility and compliance by the industry;
- (e) Improve the availability of scientific advice and economic data.

As stated before most problems and drivers of the current CFP are related to each other. This is the case as well for specific objectives. However, objectives (a) and (b) above take precedence over the others while (c) and (d) go together. As regards (e), having a good scientific data support will improve the effectiveness of actions intended to eliminate overcapacity and overfishing.

4.3.2. Economic sustainability

Economic sustainability has to be understood as economically viable, profitable fleets and related processing, ancillary and aquaculture activities, acting within the limits set by environmental sustainability. This should take place independent from public support, operating on a competitive global market characterised by the increasing complexity and diversity of the production and distribution chain and by evolving habits and patterns of consumption by consumers.

Specific objectives linked to achieving economic sustainability:

- (a) Increase the long-term resilience of the fisheries sector;
- (b) Reorienting the public financial support at the EU level and the CMO towards green/smart innovation, value added and marketing.

4.3.3. Social sustainability

Social sustainability has to be understood as transforming fisheries and related activities into sources of attractive jobs, which allow a fair standard of living for those who depend on them and ensures the long term viability of the social communities in which they live. The social sustainability in these areas must rely on economic diversification into related maritime activities as much as on the fishing activity itself.

As regards *specific objectives*, policy action should increase the quality of employment – in terms of income, safety and working conditions⁸⁸ - in the fisheries sector and give alternative development options to coastal communities.

4.3.4. Other objectives: simplification and reduction of administrative burden

The reform of the CFP will need to contribute to the general objectives of the EU in the area of simplification and reduction of administrative burden. As regards simplification, this will be achieved mainly through three mechanisms:

- Reducing the number of regulations;
- Reducing the complexity of regulations.
- Integration of CFP funding into one financial instrument, operating, to the extent possible, under shared management.

This policy environment would give the implementing actors sufficient flexibility in the choice of instruments needed to obtain the desired results.

Regarding administrative burden, indications regarding the administrative burden resulting from options have been given where possible. However, the reform does not include any quantifiable macro-objective in that respect. This is because the Commission's policy in that field is due to expire by 2012⁸⁹, and, at the moment, there is no quantitative target for administrative burden reduction for the period after 2012.

The table below makes the link between specific objectives and the views of stakeholders.

Table 9 - Specific objectives and stakeholder views

Specific objectives	Stakeholders views
<p><u>Environmental sustainability</u></p> <ul style="list-style-type: none"> • To eliminate overfishing in the short term. • To reduce overcapacity and discards as much as possible. • To put in place a decision-making system consistent with long term sustainability, flexible and adaptable to 	<p><u>Environmental</u></p> <ul style="list-style-type: none"> • Broad consensus that MSY must be an objective. • Broadly confirmed by majority of MS and stakeholders, but many stakeholders insist on the variety of situations; Right based management such as ITR seen useful in tackling overcapacity

<p>local conditions</p> <ul style="list-style-type: none"> To improve responsibility and compliance by the industry. To improve the availability of scientific advice and economic data 	<ul style="list-style-type: none"> Many stakeholders insist on minimization or elimination of discards Massive support for elimination of short term focus, top-down and micro-management
<p><u>Economic sustainability</u></p> <ul style="list-style-type: none"> Increase the long-term resilience of the sector. Reorient public financial support towards innovation, value added and marketing. 	<p><u>Economic</u></p> <ul style="list-style-type: none"> Majority for continuation of public funding for fishery sector, but to accompany the transition process, ease the adjustment aiming at long run economic and social sustainability MS and Industry emphasizes the role of a revised CMO and the Producers Organisations, as a response to innovation, market planning and concentration of supply.
<p><u>Social sustainability</u></p> <ul style="list-style-type: none"> To increase the quality of employment (wages, safety and working conditions) to make it an attractive source of employment. To give alternative development options to coastal communities. 	<p><u>Social</u></p> <ul style="list-style-type: none"> Generalised agreement on the importance of SSCF and a differentiated regime, but positions differ on how to address this. Many call for support to social dialogue, training, recognition of qualifications recognition of the role of women, attention o working conditions and safety on board.
<p><u>A better governance</u></p> <ul style="list-style-type: none"> Simplify the CFP. Foster regionalisation 	<p><u>Governance</u></p> <ul style="list-style-type: none"> Generally agreed that ecological sustainability create the basis for a viable fishing sector. Most catching industry and some regional authorities insist on a balance between the 3 pillars. Massive support for a move to some forms of increased regionalization that distinguishes between high level, long term objectives and basic, downstream implementation Most MS and NGO are positive (including a stronger link between financial assistance and compliance). Environmental NGO, some MS, and industry generally support results-based management.
<p><u>A more efficient external dimension of the CFP</u></p> <p>To increase international governance and sustainable fishing</p> <ul style="list-style-type: none"> To review the division of the costs of access to third countries' waters between public and private actors and to decouple the allocation of sectoral support to third countries from the fishing opportunities in their waters To improve international governance of RFMOs in order to achieve sustainable management of fish stocks, by 2020 with overcapacity reduced to levels commensurate with fishing opportunities, improved and streamlined compliance and control, reliable scientific advice and efficient decision-making (while maintaining consensus as the most preferable way of taking decisions). 	<p><u>External dimension</u></p> <ul style="list-style-type: none"> Majority of stakeholders for a more prominent involvement of the EU in RFMOs, but also for a continuation of free access to international waters. However some insist that beneficiaries should contribute to the management costs. Majority of industry stakeholders to maintain FPAs, NGO insist on stronger governance dimension

5. POLICY TOOLS AND OPTIONS

5.1. Policy tools

There a number of policy tools which can be used to achieve the above objectives. Some of these could apply with varying degrees of intensity. These tools are presented below:

Table 10 - Reform tools

Reform tools
<p><u>Conservation and fleet policies</u></p> <ul style="list-style-type: none"> Transition to F_{MSY} approach and ecosystem approach, LTMP. Individual Transferable Rights (with safeguards for SSCF) and capacity management of non-ITR fleets Technical measures and new discard policy Improving knowledge and the dialogue between sector and scientists
<p><u>Economy</u></p> <ul style="list-style-type: none"> Subsidies: encouraging more environmental friendly fishing, fostering innovation (including innovation in

aquaculture), support to SSCF (but linked to market), marketing and more value added production, territorial development <ul style="list-style-type: none"> • CMO reform (marketing and promotion)
<u>Social</u> <ul style="list-style-type: none"> • Specific measures for SSCF • Specific social measures (Vocational training with focus on new skills) • Coherence with IMP and other coastal policies (jobs outside fisheries sector)
<u>Governance</u> <ul style="list-style-type: none"> • Regionalised approaches • Control regulation, IUU regulation
<u>External dimension</u> <ul style="list-style-type: none"> • FPAs and international governance support

Out of these tools the most important change with regard to the current CFP are Individual Transferable Rights (ITR)⁹⁰.

ITR will become the instrument to deal with remaining overcapacity in the reformed CFP. ITR entitle their holder to a specific portion of a MS's future annual fishing opportunities, and which their holder may hand over to anyone that is allowed to be a holder subject to possible restrictions. The rights do not give their holder any property rights. They may also be revoked in accordance with specified procedures.

As state above, public support for fleet's restructuring has not been efficient in reducing overcapacity. Contrary to that, examples in MS, such as Denmark and the Netherlands, and beyond the EU (notably in Iceland and Norway) show that ITR, can be instrumental in eliminating or substantially reducing overcapacity. In Norway, the introduction of a ITR system lead to a 50% decrease in the number of vessels in the offshore fleet and about a 38% decrease in the coastal fishing segment within 5 years of implementation⁹¹. In the Danish pelagic fisheries the number of vessels holding herring quotas has been reduced by more than 50% within 4 years of implementation⁹².

This happens not through regulatory action, but by making it a business decision for the sector itself to decide on the optimal capacity of the fleet. By being able to sell its fishing shares inefficient operators will leave fishing, whereas by being able to buy fishing shares efficient operators will be able to optimise their operations.

ITR does not on its own fully secure environmental sustainability. It will be essential to have other management measures to do so. However, those who hold fishing shares have long term security for their share in the relevant fisheries, which thereby promotes their long term thinking which helps achieving environmental sustainability. Fishers are more likely to accept lowering allowed catches for the purposes of rebuilding fish stocks if they know that they themselves will benefit in the medium to long term from the stocks recovery. It is common then to get support for lowering TACs from fisheries that operate under such long term security (e.g. in Iceland and Norway).

The optimisation of the fishing capacity, the increased long term outlook and the more business-like approach from implementing ITR are also expected to improve the economic performance of the catching sector. The economic viability of the Danish fishing fleet has for example improved significantly with the introduction of this system.

A widespread concern regarding ITR is that they tend to concentrate fishing rights in the hands of a limited number of big operators. Evidence does not show this is the generally the case. However, ITR are normally assorted with safeguards that limit the concentration of quota (e.g.; by setting a ceiling on the quota any given operator may hold).

Furthermore, economic efficiency (and hence the effectiveness of ITR against overcapacity) would be maximized if limitations to the transfer of quotas were lifted. However, further safeguards are commonly used that reserve part of the quota to given type of vessels or communities and/or to limit transfers of quota between regions within a country, between countries or between types of vessels. Political and/or social acceptability plays a significant role in the use of safeguards at the expense of some efficiency. In this respect, the consultation showed that MS either prefer that ITR are implemented at national level only or wanted to avoid that ITR would affect the allocation to MS resulting from relative stability, which is consistent with a system where cross-MS transferability is not proposed.

Losses of effectiveness are anyway not expected to be very significant. International experiences show two things. First, that even in countries where extensive safeguards are in place (e.g.; Norway⁹³), ITR have still delivered their expected benefits and second that the setting up of ITR systems is a gradual, step by step process which takes time. The sector needs to convince itself of its benefits. However, when benefits materialise, it becomes easier to convince the sector to take additional steps, such as extending ITR to additional fisheries or fleet segments as was the case in Norway, Iceland or Denmark.

5.2. Options

The IAR defines and analyses a) the continuation of the current CFP beyond 2012. This option will serve as a benchmark for reform options, and b) four main reform options (options 1 to 4) plus two further (options 1a and 2a). The "no EU action" was also considered. However, it was discarded early in the process, because, as stated above the Union shall define and implement a CFP⁹⁴. Other possible but more radical options were excluded from the analysis either because of their political unfeasibility and/or because of its massively negative economic and social effects in the short term (e.g.: closing a large part of EU waters to fishing for a given period).

The discontinuation of the relative stability principle was excluded on the basis that there was widespread support by MS and stakeholders for its maintenance. Some MS went beyond and considered relative stability as a fundamental cornerstone of the CFP providing security and stability. These were in general also the ones more clearly against the introduction of ITRs. Other MS and some stakeholders were willing to make it more flexible mainly by facilitating swaps. The European Parliament was ready to reconsider it but provided that benefits for coastal communities would be maintained. Hence, it was concluded that such an option would not be politically or socially acceptable and could even jeopardise the introduction of other very important tools, in particular of ITR⁹⁵.

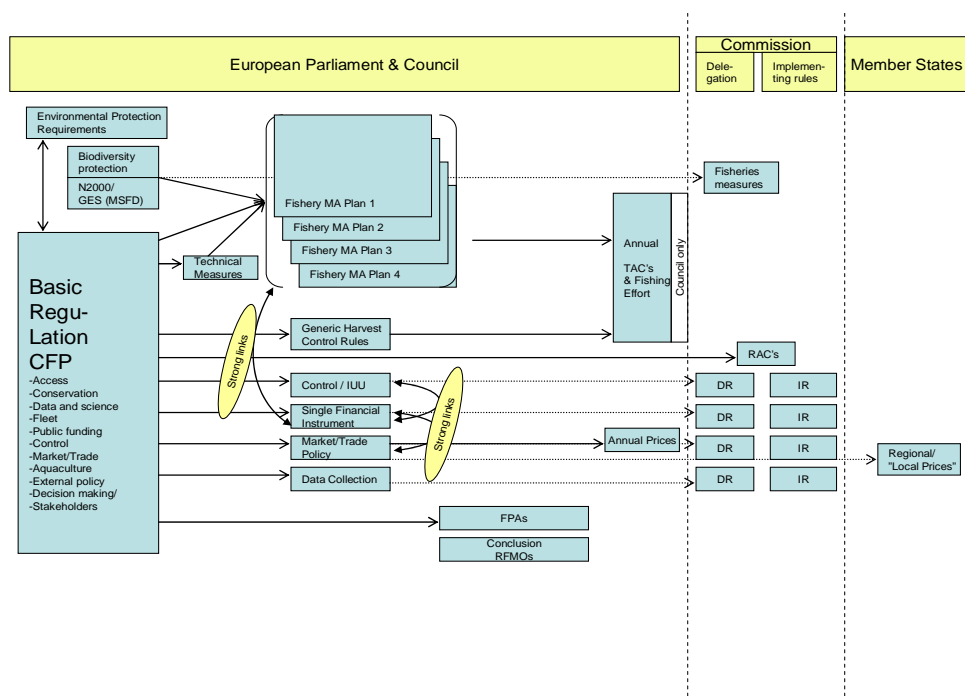
A common theme to all these options is the prevalence of environmental sustainability over economic and social aspects. This is reflected by the fact that the Fmsy objective is to be achieved as soon as possible in accordance with the flexibility in each option. Tools (or combination of tools) other than TAC and fishing mortality levels could be used to achieve environmental sustainability. However, these are widely known tools for which data is available and so are particularly suitable for modelling and for measuring impacts.

Another common theme is the reduction of discards, which, as stated above, is an objective of the CFP reform. The reduction of fishing pressure, the introduction of ITRs and the reinforced cooperation at regional level would induce reductions in discards. A more significant reduction is expected from the introduction of management rules for mixed fisheries, in particular, the "most sensitive" one in options 1a, 2 and 2a. On top of that, the Commission will propose to take a more active policy against discards, in particular the introduction of catch-quotas and/or discard bans. Such an additional anti-

discard policy will apply to each reform option. This is the reason why it is analysed in the sensitivities section. Doing so also facilitates modelling because the absence of hardly any reliable data about the level of discards impedes any reliable quantitative analysis. This is not a serious shortcoming though, because the direction of the environmental, economic, social and governance impacts of such a policy will be the same across options. Changes in the intensity of such impacts will not affect the ranking of options.

Finally, irrespective of the option, the legal framework of the CFP needs to be significantly simplified. This will be achieved by moving from the current approach based on detailed regulations to the one based on the notion of (decentralised) 'results-based management'⁹⁶, where the EU regulations will establish the main objectives and principles but will not be prescriptive in terms of the technical means to achieve them. This would increase the room for sectorial initiatives, not only at the level of the catching sector, but also down the production, processing and distribution chain. The structure of the modified CFP could be as follows:

Figure 6 - The possible legal structure of a simplified CFP (common to all reform options)



The future Basic Regulation⁹⁷ would cover all CFP pillars, including the external dimension. Furthermore, a crucial element in the new CFP would be the transition from stock-based multi-annual plans to management of the resources on the basis of integrated multi-annual plans by fishery (and sea-basin), in combination with a results-based management approach. This means that both targets and harvest control rules should be applied to all the stocks in the fishery. Additionally the transition needs to broaden the scope of the management, not only targeting a certain stock size or fishing mortality – but also aiming for instance at stock compositions, at concrete discards minimization targets, and at ecosystem aspects such as effects of the fishery on non-target species, protection of vulnerable species/habitats and other relevant environmental and/or biodiversity aspects. Finally, all current derogations and exceptions would be eliminated unless their benefits are proven on an objective manner.

5.3. Policy tools, options and stakeholder views

The different reform options were built taking the stakeholder views⁹⁸ into account. This is particularly the case as far as controversial issues are concerned.

There were diverging opinions as to whether environmental sustainability should be given overarching priority. Even if that was the majority view, the EP and the catching sector proposed giving equal weight to environmental, economic and social sustainability. The different options give short-term priority to environmental sustainability. However, all but Option 2 include some flexibility as regards the date at which Fmsy should be achieved and the maximum inter-annual reduction of TACs. From that point of view, Options 1, 1a and 2a try to reach the best possible balance between the three sustainability objectives. Option 3 gives a higher importance to social sustainability.

Dealing with mixed fisheries was a matter of significant discussion by stakeholders; not so much as for the necessity of achieving MSY, but as to how to do so, even if there were not concrete proposals as to how to do so.. Two rules are considered in the IA: the "most valuable stock" (options 1, 3 and 4) and the "most sensitive stock" (options 1a, 2 and 2a).

Overcapacity was another important issue. All options, but Option 4, deal with overcapacity by means of ITRs, however there was no unanimity as regard their necessity and scope. In that respect, options 1, 1a and 3 include compulsory ITRs for large scale, which are not transferable across MS. Option 2 and 2a include EU-wide transferable ITRs for all fleets. Option 4 does not include an active ITR policy at the EU level. Nevertheless, ITR remains a controversial matter and, as explained in the risk section below, it could be subject to legal challenges in one or the other MS, particularly by stakeholders excluded from them.

The necessity of protecting SSCF was generally recognized, but the views differ on how this should be done. The Commission took the view that action was necessary to protect coastal communities. For that reason, all options include some protection for SSCF, either as regards the introduction of ITRs and/or as regards a privileged access to public financial support.

Regarding the future of public financial support, the different options reflect the diverging stakeholder's views as regards coverage, with the exception that any aids to fleets will be discontinued because of their negative effects on overcapacity.

In line with stakeholder views, most options provide for the maintenance of a reformed CMO focussing on product market differentiation actions. In order to maintain consistence with what was done in the context of public financial support, options 2 and 2a provide for the elimination of the CMO.

Regarding the external dimension, as requested by most stakeholders, all options provide for an enhanced involvement of the EU in the global governance of fisheries. An increase of human resources for the RFMO work is advocated by a significant number of stakeholders to ensure EU's active presence in international fora and for the EU to provide global leadership on sustainable management of fisheries. Regarding FPAs, under options 1 and 3, vessel owners will pay the cost of access with (Option 1) and without (Option 3) transition. In order to maintain consistency with what was done in the context of public support, Option 2 provides for the discontinuation of FPAs.

5.4. Contents of the different options⁹⁹

- **Option 0 - Status Quo: The continuation of the current CFP** amounts to the continuation of the current CFP but taking into account recent legislation, in particular LTMPs in the pipeline, the Control Regulation and the IUU Regulation¹⁰⁰. That way, the Status Quo (SQ) amounts to the CFP as it will be in place by January 2013¹⁰¹. All reform options are to be compared to the SQ option.

The main CFP reform options:

- **Option 1: Achieving environmental sustainability within a flexible time horizon in order to strike the best feasible balance between environmental, economic and social sustainability.** This option proposes new tools to deal with the identified problems but does so in a manner as balanced as possible so that the short term economic and social sacrifices are reduced without jeopardising the achievement of environmental sustainability as soon as possible. This is going to be achieved by capping the yearly reduction of TAC, by revising the CMO and by focusing public financial support on coastal communities (and on innovation).
 - The main components of this option are a) achieving Fmsy as soon as possible but with a maximum inter-annual TAC reduction of -25% (as in current LTMPs). As a result some stocks will reach Fmsy after 2015 (but no later than 2020). Use of the "most valuable" rule for mixed-fisheries; b) use of ITR as the tool against overcapacity. They would be compulsory for industrial fleets and voluntary for SSCF. ITR will be implemented over 4 years and transferability will be limited to within MS; c) public financial support will be re-focused so that fleet subsidies (the equivalent of Axis 1 of the current EFF) will be eliminated; d) the CMO will also be re-focused towards marketing, promotion and local product market differentiation; and e) FPA's costs to be gradually borne by ship-owners.
- **Option 2 -The radical option: Achieving environmental sustainability without any flexibility regarding time horizon.** This option aims first and above all to achieve environmental sustainability no later than the end of 2015, irrespective of the short term economic and social costs. It includes the very strong assumption that sufficient scientific advice will be available within such short time frame. The elimination of public financial support (specific for fisheries) and of the CMO would further ensure that the remaining sector would be self-standing and able to survive on a globalised market context.
 - The main components of this option are: a) Fmsy to be achieved within 4 years from the start of the reform, without exceptions. Use of the "most sensitive" rule for mixed-fisheries; b) use of ITR as the tools against overcapacity, as in Option 1, but with intra-MS transferability; c) public financial support and CMO discontinued and d) FPAs to be gradually terminated.
- **Option 3: Achieving environmental sustainability within a time framework consistent with the minimisation of negative social impacts.** This option amounts to trying to minimising the short-term economic and social impacts by allowing the sector extra time to reach Fmsy and to implement ITR.
 - The main components of this option are a) achieving Fmsy as soon as possible but with a maximum inter-annual TAC reduction of -15%, so that more stocks will reach Fmsy levels only towards the end of the period. It uses the "most valuable" rule for mixed fisheries; b) use of ITR as in Option 1, but with a longer implementation period; c) public financial support to be re-focused as in Option 1 with the addition of

a reserve for emergency situations; and d) limited re-focussing of the CMO so that some form of market intervention will remain.

- **Option 4: Achieving environmental sustainability within a flexible time horizon in order to strike the best feasible balance between environmental, economic and social sustainability without EU-led ITR.** This option is equivalent to Option 1 but without any management tool in the CFP to deal with overcapacity. MS would then be free to implement or not ITR. However, Axis 1 of the current EFF will still be discontinued after 2013 (2015 in view of the n+2 rule).

The two additional options:

- **Option 1a;** It amounts to Option 1 but uses Option 2's "most sensitive" rule for mixed-fisheries.
- **Option 2a:** It amounts to Option 2 but uses the -25% maximum inter-annual TAC reduction as in Option 1.

The different options could be ordered as follows from least to most radical: Option 3, Option 1, Option 1a, Option 2a and Option 2.

Option 4 is apart, as it can be considered as an option helping to assess specifically the impact of (the absence of any) common tool dealing with overcapacity

The table below develops the different main and additional options and link problems, objectives and tools. Annex 4 gives further details on each option.

Table 11 - Content of each option

	Problems	Specific Objectives	Policy tool	Status quo	Option 1	Option 2	Option 3	Option 4	Option 1a	Option 2a
Environmental sustainability	Overfishing	Eliminate overfishing (achieve mortality levels compatible with MSY by 2020 at the latest)	MSY strategy (including rules for mixed fisheries)	Current LTMPs, which do not always implement Fmsy consistently, remain No specific rules for mixed fisheries	Move to Fmsy for all stocks over a period of 8 years. Inter-annual TAC variation maximum +/-25% Fmsy to be achieved by the most valuable species	Move to Fmsy for all stocks over a period of 4 years Fmsy to be achieved by the most vulnerable/sensitive species	As Option 1. Inter-annual TAC variation maximum +/-15% As Option 1	As Option 1 As Option 1	Fmsy to be achieved by the most vulnerable/sensitive species	Move to Fmsy for all stocks over a period of 8 years
	Overcapacity	To reduce overcapacity as much as possible	Fleet policy (ITR)	Capacity reduction through EFF and an anticipated EFF-2	No fleet subsidies under EFF-2. ITR on LSF compulsory. ITR on SSCF voluntary. Transfers limited to within-MS.	No fleet subsidies. ITR on LSF compulsory. ITR on SSCF voluntary. EU wide transferability	As Option 1	No fleet subsidies No EU-ITR policy		
	High level of discards	To eliminate as much as	• Reduction of fishing	No active discard reduction	As Status Quo, but additional	As Option 1 but additional	As Option 1	Less discard reduction	As Option 2	

		possible discards	pressure; ITR and regionalisation	policy	positive effects from most valuable mixed fisheries rule,	reductions of discards resulting from the "most sensitive" mixed-fisheries rule	y	resulting from the absence of ITRs and the maintenance of overcapacity.		
Economic sustainability	Public financial support has not improved economic performance of the sector	Reorientation of public financial support	Subsidies	Continuation of current funding through EFF-2	No fleet subsidies, focus on smart green fisheries and aquaculture and territorial development	No EFF Possible elimination of current VAT and parafiscal tax exemption for fuel.	As Option 1, with a small reserve for crisis response (e.g. in case of collapsed fishery)	As Option 1		
	Lack of CMO effectiveness	Increase long-term resilience	CMO	Renewal of current CMO	Large reform of the CMO focussing on adding value, product market differentiation and marketing	No CMO and removal of tariffs	As Status Quo	As Option 1		

Social sustainability	Sector declines in fisheries dependent communities	To give alternative development options to coastal communities	Specific measures for SSCF and subsidies	No differentiated regime for SSCF	Differentiated regime for SSCF: <ul style="list-style-type: none"> • . Axis 4 focus on heavily fishing dependent communities. • Voluntary move to ITRS + safeguards in favour of SSCF 	No differentiated regime	As Option 1	As Option 1	As Option 1	As Option 2
	Low attractiveness the sector	To increase the quality of employment so as to make it an attractive source of employment	Specific social measures (safety & labour legislation). Improvements in environmental and economic sustainability should improve attractiveness	No changes to current situation	Improve safety legislation (largely beyond scope of CFP)	As Option 1	As Option 1)	As Option 1	As Option 1	As Option 1
External dimension	Concerns about sustainability of fishing in third countries and about effectiveness of funding for their fisheries policy	To review the division of costs of access to third countries' waters; <u>to decouple the allocation of sectoral support from fishing opportunities</u>	Next-generation Fisheries Partnership Agreements between the EU and third countries	No change but fewer EU vessels than currently, due to measures already in place	Continuation of agreements with cost of access borne entirely by EU ship owners after a transition period	Phasing-out of all bilateral fishing agreements	As Option 1 but transformation of "mixed" (multi-species) agreements into pure tuna and/or pelagic agreements.	As Option 1	As Option 1	As Option 2
	Lack of governance in RFMO	External dimension to contribute to CFP objectives	EU involvement in RFMOs	No change (RFMOs are however in a review process)	Enhanced participation including financial contribution of EU ship owners	EU leadership in RFMO with increased funding, including from financial contribution of EU ship owners	As Option 1			

Simplification and governance	Rigidity, lack of flexibility, Top-down, micro-management	To put in place a clear framework with more flexibility	Regionalised approaches	RAC structure continues	Regional approach to implementation by the MS RACs representation enhanced	As Option 1	Regionalisation limited to the enhanced role of RACs.	As Option 1		
	Complex legal structure		Legal tool	No change	Simplified legal structure	As Option 1	As Option 1	As Option 1	As Option 1	As Option 1

6. METHODOLOGICAL APPROACH FOR THE ANALYSIS OF IMPACTS¹⁰²

The methodology first involved the definition of measurable targets for the objectives. The choice for environmental sustainability was quite obvious as achieving Fmsy was already defined as a target. For economic sustainability the solution adopted was to compare economic progress resulting from each option, in terms of income, profitability and overall economic performance. The choice of targets for social sustainability was more complex because employment losses are unavoidable under any option, in particular for the catching sector. This is logical in light of the employment evolution in fisheries until now (including non-EU countries), the current overcapacity of many fleets and technical progress. Therefore the solution chosen was a composite index of employment and wages evolution as an indicator of the attractiveness of the sector¹⁰³.

Second, a set of impact indicators¹⁰⁴ to capture impacts and progress towards environmental, economic¹⁰⁵ and social sustainability objectives was defined. Additional indicators address governance, administrative burden and simplification. The value of indicators is measured and compared for 2012, 2017 and 2022 (2020 for environmental performance). The first point in time intends to give the starting point, accounting for any progress since late 2010 to the start of the reform. The second tries to measure short to medium term impacts. The third tries to capture long term impacts.

Table 12 - Specific objectives and Indicators

Specific objectives	Measurable indicators used in the analysis of impacts ¹⁰⁶
<p><u>Environmental sustainability</u></p> <ul style="list-style-type: none"> To eliminate overfishing in the short term. To reduce overcapacity and discards as much as possible. To put in place a decision-making system consistent with long term sustainability, flexible and adaptable to local conditions To improve responsibility and compliance by the industry. To improve the availability of scientific advice and economic data 	<ul style="list-style-type: none"> 1) Stock situation in terms of fishing mortality in relation to MSY 2) Percentage of stocks and/or catches covered by LTMP 3) Average size (length and weight) of fish 4) Fleet evolution.
<p><u>Economic sustainability</u></p> <ul style="list-style-type: none"> Increase the long-term resilience of the sector. Reorient public financial support towards innovation, value added and marketing. 	<ul style="list-style-type: none"> 7) Gross value added 8) Economic sustainability: Ratio current revenue-Break even revenue point 9) Net profit margin 10) Economic performance: Return on investment
<p><u>Social sustainability</u></p> <ul style="list-style-type: none"> To increase the quality of employment (wages, safety and working conditions) to make it an attractive source of employment. To give alternative development options to coastal 	<ul style="list-style-type: none"> 13) Employment 17) Wages Attractiveness of the sector: Composite indicator 28) Safety

communities.	
Better governance <ul style="list-style-type: none"> • Simplify the CFP. • Foster regionalisation 	<ul style="list-style-type: none"> • 18) Departure from quotas by Council (scientific advice in decision making) • 19) Management costs for the sector • 23) Level of quota exchanges • 29) Time taken to reach a decision • 25) Impact for the private sector • 26) Level of implementation simplification process by MS and industry
A more efficient external dimension of the CFP To increase international governance and sustainable fishing	27) Governance of EC fishing activities in external waters

Most of the data come from the existing data sources. Nevertheless, attempts were made to fill gaps with varying degrees of success. In any event, as explained on Section 2.1.5, the overall quality of data does not allow a full quantitative econometric analysis. Qualitative assessment has been necessary to cover gaps and to confirm modelling results based on data of uncertain quality.

As stated above, data for processing, ancillary services and aquaculture are scarce. As a result, quantitative and/or trend analysis is not always possible for these sectors. Furthermore, the impacts of changes to EFF funding, have not been quantitatively assessed. The reasons for doing so are (a) shortcomings of either the model or the data collection framework, and (b) impacts of funding being measured by other indicators¹⁰⁷.

Where modelling was feasible, two bio economic models were used. The first, the EIAA model has been used for all EU waters with the exception of the Mediterranean and the Black Sea. It is a static model but it has the advantage of being well known and widely used by the STECF and has been improved for the purposes of this IA. The second model, BIRDMOD, is adapted to fisheries based on effort instead of quotas¹⁰⁸ and hence was used for the Mediterranean. The models are built on data trends for the years 2003-2007, which are then projected into the future. All economic data are expressed in real terms relevant to 2006 Eurostat data. In any event the values resulting from the analysis cannot be taken at face value, but as trend indicators for relative comparisons.

Different assumptions regarding crucial variables are made based on expert knowledge. The evolution of first sale¹⁰⁹ and fuel prices are the two most important ones. As required by the Impact Assessment Guidelines¹¹⁰, different values (upwards and downwards) have been tested and are included in Section 9 below¹¹¹.

Finally, although expected governance impacts are addressed, the debate as to what is to be considered "non-essential elements of the legislative act" under Article 290 TFEU (and indirectly Article 291 TFEU) is not yet finalised. In the case of fisheries the issue is about what are the non-essential elements of the conservation policy defined under Article 43 (3) TFEU. The border between essential/non-essential elements will determine the potential scope for delegation/implementation in the context of regionalisation and, hence, the scope and governance impacts of the different options.

7. ANALYSIS OF IMPACTS

This section deals with the analysis of impacts of each option. It is important to note, regarding environmental sustainability, that no option reaches 100% of stocks at F_{MSY} level by 2020. This is the result of a) uncertainty related to deepwater stocks so that sufficient information will not be available irrespective of the option and b) the fact that the "most valuable" mixed-fisheries rule implies that some stocks may remain overfished. In that respect, simulations carried out by ICES on six North Sea species

(cod, haddock, whiting, saithe, plaice and sole –"the most valuable") demonstrated that the rule's results are that two species will be fully exploited (sole and plaice), 2 will be overexploited (cod and haddock) and two will be underexploited (saithe and whiting).

Generally speaking, most of the progress towards environmental sustainability is expected to have taken place by 2017. The bulk of the reduction in catches will take place in 2013-2015. ITRs (except for Option 4) will be introduced by 2016 (2017 in Option 3). The elimination of Axis 1 type of public support will occur at the end of 2015. As regards fleet sizes, between 69-71% of the reduction for Options 1-4 would take place in the first five years, while for the SQ Option this figure would be 44%. The slowdown in fleet restructuring after 2017 is due to the increase in catches in parallel to the improvement of TACs once stocks reach Fmsy.

As regards economic sustainability; income improves relatively less in the first period than in 2017-2022. The increase in GVA is more evenly distributed, no doubt influenced by crew share costs that would stabilise or decrease as a result of employment losses and by exit from fleets of the most inefficient vessels.

As for social sustainability, as much as 71-75% of all employment losses would occur in the period 2012-2017 as far as all reform options are concerned and just 49% for the SQ Option. The pace of improvement social indicators will accelerate from 2017 onwards. Changes under the SQ Option would be more linear and of a much lesser magnitude in absolute terms.

7.1. Continuation of the Current Policy

The SQ option results in modest, insufficient progress towards achieving the objectives.

7.1.1. Environmental sustainability

Environmental sustainability is not achieved. Environmental indicators slowly improve over the period. Improvements are associated with the recovery of fish stocks, particularly those associated with LTMPs, and a continued improvement in the number of protected areas¹¹². However targets are not met as a consequence of discarding, unassessed stocks and remaining overcapacity. Fish stocks will experience more modest improvements if the control regulation is less effective at reducing unreported catches than is assumed in the option. In the Mediterranean, stocks will improve as fleet size, and effort, decline but these reductions will not be sufficient to achieve F_{MSY} .

For northern stocks, most stocks and catches are stabilised by 2020. 57% of stocks are managed at their fishing mortality target reference points in 2020, but because of the disconnection between these and MSY only 6% of modelled stocks could be said to be fished sustainably in 2022 (2% in 2012 and 6% in 2017). The size of the modelled stocks would increase by 48% between 2012¹¹³ and 2020/22, and catches by 17% (308,000 t). For southern stocks the increase in mesh size and reduction in fishing effort should improve stock status, but as with the northern stocks this is not sufficient to reach Fmsy for any of the modelled stocks. The model also assumes some medium term decline in biomass and increase in catch in non-modelled stocks, as a result of diversion of fishing effort from stocks under LTMP.

Regarding overcapacity, modelled fleets will reduce in size (in number of vessels) by 6.6% in 2017 and by 15.1% by 2022 (compared with estimated number of vessels in 2012¹¹⁴). Fleet size decline would be larger for MS that adopt ITRs, as from adoption.

7.1.2. *Economic sustainability*

There would be a small, gradual improvement in economic performance, associated with the improvement in fish stock status and the reduction in fleet size. The economic viability of many fleets would remain under threat.

GVA for the modelled fleets would increase by 10% in 2017 (19% in 2022). Revenue over break-even revenue would also increase (by 5% in 2022). The same goes for net profit margin (from 5.3% in 2012 to 7.8% in 2017 and 10.1% in 2022) and return on investment (from 3% in 2012 to 5% in 2017 and 7% in 2022). Regarding the latter, the 7% in 2022 is less than half the 15% assumed to reflect the opportunity cost of a risky activity as fishing is. Changes in profitability would be also positive in the Mediterranean, although even more modest than in northern fisheries. On a vessel size basis, the improvement in economic indicators would be the greatest for the 2440m length class (22% improvement over the period) and least for the SSCF (4% improvement). This reflects the lower dependency of these smaller vessels on the main recovery stocks, and a higher dependency on coastal stocks. On the whole, 33% of the SSCF vessels would remain unprofitable.

As regards processing, GVA would increase in proportion to increases in catches (2% in 2017 and 2022). Performance would gradually increase as stocks recover and more local product is available. Secondary processing would not be affected as the tariff regime does not change.

As for ancillary services, the modest reduction of fleets would negatively affect demand; hence the estimation is a reduction of GVA of 7% in 2017 and 15% in 2022.

7.1.3. *Social sustainability*

Social indicators are likely to increase over the period, with the exception of employment. Total employment is predicted to moderately decline. Crew wage per FTE would increase, by 3% in 2017 and 6% in 2022. They would be highest in the >40m vessel class, and lowest in the SSCF. The greatest increase would be in the 2440m segment (13%). Crew wages are expected to continue below national averages, so that *ceteris paribus* the attractiveness of the sector would remain constant or continue to decline. Similar results are evident in the Mediterranean, with crew wages predicted to rise by 12% by 2022.

As regards processing, employment increases of 1% (2017) and 2% (2022) are expected. Employment trends in ancillary services are negative in view of the expected fleet size reductions: -7% (2017) and -15% (2022). Safety would modestly improve gradually as fleets become smaller and more profitable.

Some coastal communities would continue to suffer from the decline in the importance of fisheries, but others are likely to see an improvement in the status of fisheries.

7.1.4. *Simplification and administrative burden*

Unless there is a significant improvement in management of stocks outside LTMPs and stocks without analytical assessments, relatively high levels of departure from scientific advice are likely to continue. There are likely to be improvements in management costs (reducing as a result of the use of new technology, etc) and data reporting (improving with increased compliance with regulations). Further rationalisation of the rules, such as done for the DCF and the control regulations, is likely to lead to further reduction in administrative burden. A reduction in fleet size and increasing use of ITR and electronic monitoring should further improve these indicators.

Maintaining the current structure of the CFP would not improve governance or compliance.

7.1.5. External dimension

Continuing **FPAs** as they are now would not allow addressing criticism and weaknesses as described above in terms of environmental sustainability and governance.

Given the expected decrease of the EU external fleet, the major impact would be that coastal states would receive a decreased total financial contribution, including less support to fisheries policy development, as the rule of proportionality between EU payments and fishing capacities negotiated would remain in force. Furthermore, due to this proportionality rule the current unsatisfactory situation under which some countries receive too much funding for sectoral support and others too little funding would still prevail.

However, since the FPA contribution would still be a combination of earmarked and non-earmarked amounts, it would be possible to adjust the percentage earmarked for policy support to allocate more or less to each of the two budget headings, taking into account each country's absorption capacity. Thus, the budgetary situation could be neutral for most third countries, except for Mauritania, Guinea Bissau and Greenland. Under this option, their macro-economic stability would be compromised unless 100% of the EU contribution is kept as ordinary (non-earmarked) public receipt, but this cannot be envisaged (the partnership implementation requires earmarked funding).

A reduced number of vessels would be operating under this option as a consequence of natural ageing of vessels¹¹⁵. For the EU, the budget would decrease to €65 million, allowing savings of €76 million.

Some **RFMOs** do not perform well. The EU could enhance its involvement, but the reform process may be slow, irrespective of what the EU does. This may consequently lead to a decline in the roles of some of the less performing RFMOs. In such cases, pressure of civil society for a fundamental reform of RFMOs or replacing them with other instruments (e.g. CITES, unilateral actions) may increase over time, if the state of stocks continues to decline.

7.2. Option 1

The impact assessment results under Option 1 suggested substantial improvement over the period 2012 – 2020/2022.

7.2.1. Environmental sustainability

The status of stocks under Option 1 is expected to be greatly improved by 2020/2022. The way in which these stocks will reach F_{MSY} will depend on the rate at which information improves to deliver assessments and scientific advice. For not assessed or poorly assessed stocks to move to F_{MSY} it will be necessary to develop or strengthen existing assessments which can be used to implement appropriate harvest control rules.

Under Option 1, close to 80% of the relevant stocks may have reached F_{MSY} by 2020/22 (90% of non-deep sea stocks and close to 40% of the deep water stocks). The mixed fisheries rule has a significant impact on these figures: the optimisation to deliver MSY for the most valuable species necessarily implies that part of the species will be or remain overexploited.

Table 13 - Stocks at F_{msy} under Option 1

Total number of stocks at F_{msy}	Total number of stocks	2012	2017	2020/2022
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<i>Multispecies considerations</i>				
<i>“northern” stocks at F_{MSY}</i>	89	3	47	81
<i>“deepwater” stocks at F_{MSY}</i>	29	0	5	11
<i>“southern” stocks at F_{MSY}</i>	18	4	9	15
<i>Totals</i>	136	7	61	107

Stock size of modelled populations would increase by 15.76 million tonnes (70%), and catches by 588,000 tonnes (18%).

Regarding overcapacity, the modelled fleets would reduce by 12.6% by 2017 and 17.7% by 2022¹¹⁶. The reduction will be quite similar in the Mediterranean, although some fleets will see much larger reductions due to the mixed fisheries rule.

7.2.2. *Economic sustainability*

Net profit margin will multiply by 3.5 (from 5% in 2012 to 15% in 2017 and 18% in 2022). Income will improve steadily from 2012 onwards, eventually increasing by 14% in 2017 and 24% in 2022. This increase in income, along with changes to fleet structure, will result in a 90% increase in GVA by 2022 (58% by 2017), 14% increase in revenue to break even revenue (from 1.15 in 2012 to 1.31 in 2022) and a 15 percentage points increase in return on investment (from 3% in 2012 to 15% in 2017 and 18% in 2022). Regarding the latter, the end result by 2022 would be significantly above the threshold of +15% selected to reflect opportunity cost of investing in a high risk sector.

Other economic indicators also see an improvement, although there will be short term (1-2 year) reductions in some indicators as catches are initially reduced while stocks rebuild. The SSCF sector performs best in general and remains very profitable, despite the relatively low effort per vessel, and this supports the assumption that relatively few vessels would seek to enter ITR arrangements. The weakest improvements are obtained by the 2440m segment. The 1224m performance corresponds to the average, whereas that of the >40m exceeds the average but remains below the SSCF.

Figures for the Mediterranean fleets are slightly better for revenue to break even revenue (16%) and net profit margin (16%) but worse for GVA (23%).

Implications for the processing sector, in particular to the primary processing sector, will be positive, with the increase in catches. GVA would increase by 16% in 2017 and by 26% in 2022. Secondary profit would remain largely unaffected. Regarding the ancillary sector overall effects will be negative, in line and proportion to the reduction of fleet size. GVA will decline by 12% in 2017 and by 18% in 2022.

7.2.3. *Social sustainability*

Employment will continue to decline in the catching sector, decreasing by 16% in 2017 and by 23% in 2022. Regarding segments, the largest employment decline will occur on the 2440m segments (-16.7% in 2017 and -34.4% in 2022). The SSCF and the >40m segments would see the lowest declines (-10% in 2017 and -16% in 2022). Figures for the Mediterranean vary quite a lot. Decline in employment by 2022 is projected to be -27% for Sicilian fleets, but just -14% for other Mediterranean fleets. This is mainly due to the fact that the mixed fisheries rule would reduce catches and hence fleet size and employment.

Crew wages would increase by 76% in 2017 and 131% in 2022 and improve the attractiveness of the sector. The largest vessels would see a small increase in employment per vessel. This is a result of increasing fishing opportunities¹¹⁷ accompanying the reduction in the fleet at the same time as increasing catches. This will be positive in safety terms as it appears that many vessels go to sea short handed (as argued in the study about Scotland), which poses an increased safety hazard. As regards

the Mediterranean, crew share increases are expected to be more modest (50 to 60% by 2022).

The reduction in vessel numbers will lead to a reduction in ancillary employment. As for primary processing as stocks and catches increase in the long-term, an increase in processing employment would occur. No changes are expected for secondary processing.

There is some potential for negative impacts on some communities on fishing where the concentration of quota rights with the large scale sector of a MS may take vessels away from smaller highly vulnerable communities. However, if necessary, safeguards (e.g.; to prevent excessive concentration or to maintain quota available for coastal communities) may significantly reduce concerns regarding these transfers.

7.2.4. *Simplification and administrative burden*

Option 1 would see a significant improvement in governance resulting from the coordinated regional approaches by MS. Among other things, it should improve the basis for management plans. The increased industry involvement in the choices for implementation should increase acceptance by all stakeholders, which should also improve compliance. The simplification of the legal framework, together with the increased self-responsibility inherent to ITR systems should also increase compliance.

Management costs will, however, significantly increase with the requirement for better scientific advice which will result in an improvement of the data available for management (the increase in research effort could represent adding an additional €20 million to the MS overall research budget).

The introduction of ITRs would imply significant transposition and administrative costs in MS as well as in the EU. This would comprise at least the adoption of national legislation, the setting up of the new system, the provisional allocation of ITRs and thereafter revising that initial allocation. At some point after the adoption of ITRs, part of these costs would be passed on to the sector (as happens in Iceland and New Zealand) and increase their administrative burden. However, it is not possible to measure that.

The transfer of the FPA's cost of access to vessel owners might entail *simplification* of administrative procedures under the assumption that licence fees would still be negotiated by the EU but actually managed by the vessel owners.

7.2.5. *External dimension*

By separating sectoral support under **FPAs** from payments for access rights, and by adapting it better to third countries' needs and capacities, Option 1 should benefit the environmental sustainability of these countries' fishing activities. This applies in particular to the funding of monitoring, control and surveillance (MCS), which is essential to improve enforcement of third countries fisheries management measures. Research programmes would also be able to benefit from more targeted funding, which in turn would help to close gaps in the scientific basis for the identification of surplus stocks. Option 1 may also have a positive impact on the development of the local industries in third countries, especially in those countries which at present do not receive the critical mass of support which is necessary to develop port infrastructure or improve the logistics and management of the industry.

The gradual shifting of full access costs onto ship-owners would relieve the *EU budget* substantially. Even if the estimated needs of third countries for sectoral support are fulfilled by the EU¹¹⁸, this would necessitate only about two thirds of the current budget for FPAs. This ratio may decrease further if more selective criteria for the provision of support are defined. It may increase, however, if new agreements are concluded.

The impact on the external fleet varies from segment to segment. It is also influenced by the mode of payment, which – in the case of tuna agreements – presently varies between lump-sum advance payments and (more commonly) minimum payments that may be topped-up if actual catches exceed the reference amount.¹¹⁹ Generally speaking, the impact on *tuna* vessels would be limited if access costs are fixed close to their current "market" price (i.e., closer to 50 €/t than to the 100 €/t paid by EU and ship-owners); most of these vessels would be able to remain profitable. The assessment is similar with regard to *pelagic* trawlers. By contrast some of the *demersal* trawlers – especially those fishing for cephalopods – are already now close to, or even below, the break-even point. They would probably not be able to bear increased access costs. Shrimp trawlers are expected to cope somewhat better. Overall, the impact of this option on employment within the EU would be rather negligible.

For third countries which currently have an FPA, phasing out the EU's contribution to access costs would normally imply reduced revenues, as the payments for access under private agreements are necessarily lower, due to limited competitiveness of the fleets. For countries which rely strongly on FPA revenues (in particular Mauritania, Guinea Bissau, Greenland and the Seychelles), the adverse impact would be significant, and their macro-economic stability would be seriously jeopardised¹²⁰.

In some cases, the above revenue losses might partly be compensated by increased payments for sectoral support. However, the potential compensatory effect is limited by the fact that payments for access are an ordinary budget resource, whereas sectoral support is by definition earmarked for the implementation of fisheries policy.

The uncoupling of sectoral support from access costs would enable the former to be aligned more closely with other EU development instruments, as regards the conditions and delivery modes attached to it. The EU would thus be able to react more promptly to weaknesses in the implementation of support measures and to any human rights violations, without having to suspend or terminate the agreement, as is presently the case under some agreements. This Option would therefore provide for a more differentiated set of policy tools, thus contributing to improved governance.

RFMOs are expected to deliver better results due to improvements in their functioning. First, voting systems would replace the current consensus-based decision-making, which should allow RFMOs to take decisions on conservation and management. Second, the introduction of registration fees should streamline RFMO's lists as only active vessels would be willing to pay them. Registration fees would also increase the funds available to invest in control and, in particular, in scientific advice and data which would reduce uncertainty and improve environmental sustainability so as to make possible that most stocks managed by RFMO's would reach Fmsy by 2020 at the latest. From an economic sustainability perspective, registration fees should reduce the EU fleets active in RFMOs but is expected to have just a marginal financial impact on the EU industry. Social impacts would also be marginal.

From a governance perspective, the EU would increase its engagement in capacity building, and this is perceived as very desirable by many RFMOs. However, the performance of RFMOs does not depend only on action by the EU, but also on that of the other stakeholders present. While it is reasonable to expect that some RFMOs would undergo a reform resulting in their better functioning, even without greater involvement of the EU, and solely on the basis of the Performance Reviews conducted, this process is likely to be very lengthy and is likely not to go as far as the EU (and other like-minded Contracting Parties) may wish, although the EU has been the leader in initiating the

process of Performance Reviews as well as addressing the recommendations resulting from these exercises, and it is expected to continue doing so.

7.3. Option 2

The impact assessment results show significant improvement over the period, most notably for environmental sustainability. However, the rapid implementation of F_{MSY} policy and the development of analytical assessments and reference points that this requires are not feasible for a significant number of stocks, including deep water stocks and straddling and highly migratory fish stocks. Given that advances in this field of biology are quite slow and results can rarely be tested in short periods of time it is impossible that all these fisheries will become managed under F_{MSY} in the time span proposed in Option 2 (by 2015), even if unlimited financial and scientific resources were available. For this reason below, a modification of Option 2 is presented under Sensitivity Analysis that allows for implementation of F_{MSY} for these stocks at a more realistic rate (Option 2a). The analysis below does not take into account the feasibility issue.

7.3.1. Environmental sustainability

The state of environmental indicators improves very significantly from 2012 onwards. 89% of all relevant stocks (100% of non-deep water and close to 50 of deep water stocks) would reach F_{MSY} by 2017, instead of by 2020/2022. The "most sensitive rule" for mixed fisheries implies that up to 66% of stocks in these fisheries will remain underexploited by at least 20%.

In the Mediterranean, fishing mortality would have to be reduced by 70%, and the large scale fleet under ITRs would need to undergo a 20% reduction per year from 2016-2018. This dramatic reduction in capacity and effort would be necessary given the current state of stocks, notably for European hake ("the most sensitive" stock).

Table 14 - Stocks at F_{MSY} under Option 2

Total number of stocks at F_{msy}		2012	2017	2020/2022
"northern" stocks at F_{MSY}	89	3	89	89
"deepwater" stocks at F_{MSY}	29	0	14	14
"southern" stocks at F_{MSY}	18	4	18	18
Totals	136	7	121	121

Stock size of modelled populations would increase by 70% between 2012 and 2020/22 and catches by 19%.

Fleet size will reduce by 12.45% by 2017 and by 17.6% in 2022. The reductions in the Mediterranean will vary quite significantly between -6 and -22% for 2017 and -15 and -29% by 2022. Given the inter-EU transferability rule, those segments that remain unprofitable even after the initial reductions in fleet size associated with the introduction of ITRs would be vulnerable to buy-outs from more profitable, segments in other MS.

7.3.2. Economic sustainability

The income of the modelled fleets increases steadily until 2022. However, as some stocks in mixed fisheries remain under-exploited, increases would be somewhat smaller. Furthermore, the elimination of the EFF (and the CMO) would prevent support to increases in the value of landings through the use of 'positive' subsidies. Net profit would multiply by 3.2 in 2022 (from 5% in 2012 to 12% in 2017 and 16% in 2022). Income would increase by 5.2% in 2017 and by 14% in 2022. GVA would also improve (35% in 2017 and 65% in 2022). Revenue over break even revenue (11.3%) and return on investment (+11 percentage points) would also increase. Regarding the latter, the end

result by 2022 (14%) would be just below the threshold of 15% selected to reflect opportunity costs.

In terms of fleet segments, the strongest performance would be that of the SSCF and the >40m classes. The 1224m would perform around the average and the 2440m would perform significantly below average. Mediterranean fleets will also see an improvement in profitability, although this will be subdued somewhat by the effort reductions required for stocks to move towards MSY.

Ancillary services performance would decline quite rapidly. The processing sector would see modest rates of increase in the period, (+6% in 2017 and +15% in 2022). Impacts on processing, particularly on secondary processing, would depend on whether imports of processed products significantly increase competition with EU processed products.

7.3.3. Social sustainability

Employment would decline in the catching sector by 16% in 2017 and by 22% in 2022 as the fleet size continues to decline, particularly so under the ITR reductions. Regarding segments, the highest employment decline will occur on the 2440m (-25% by 2017 and -32.5% by 2022). The SSCF and the >40m would see the lowest declines (-10% by 2017 and -15.5% by 2022). Finally, declines for the 1224m segments would be around the average. Figures for the Mediterranean vary a lot; from -5% to -34% by 2017 and from -14% to -45% by 2022, depending on the area. Crew wages increase by 51% in 2017 and further by 98% in 2022. Mediterranean's figures are positive but more modest.

The largest vessels would see a small increase in employment per vessel. This is a result of increasing fishing opportunities. This would be positive in safety terms as it appears that many vessels go to sea short handed which poses an increased safety hazard. However, in the SSCF employment per vessel decreases slightly due to insufficient increases in catches opportunities. The elimination of EFF subsidies could have a negative impact on safety as safety actions under the current EFF would be abolished.

The reduction in vessel numbers would give a reduction in ancillary employment. As for processing, the recovery of stocks would give an increase in primary processing employment, particularly by the end of the period. Regarding secondary processing it would depend on the evolution of imports of processed products.

There is a potential for negative impacts on some communities highly dependent on fishing of allowing transfer of quota away from their traditional (local) fleets, which is in addition to the likelihood of concentration of rights within the MS fleet. Some small communities may experience tipping points, at which the loss of some small amount of quota to companies based in other MS creates an unviable fishing and ancillary industry in that community. Conversely, some other communities which are dependent on fishing may expect to gain from acquisition of quota¹²¹. However, whether a community would be significantly impacted will depend on a number of factors, including where the fish would be landed in the future, by which fleets, by whom and whether the community gaining the rights is more or less dependent upon fishing than the losing community. Impacts might be minor if changes are limited to the ownership of the vessels (or firms) holding the ITRs.

7.3.4. Simplification and administrative burden

Option 2 would see a significant improvement in governance resulting from the coordinated regional approaches by MS. Among other things, it should improve the basis for management plans. The increased industry involvement in the choices for implementation should increase acceptance by all stakeholders, which should also

improve compliance. The simplification of the legal framework, together with the increased self-responsibility inherent to ITR systems should also increase compliance. The simplification of the legal framework together with the ITR system should significantly increase compliance, which could reduce control costs. Furthermore, the elimination of subsidies will certainly result in lower administrative costs, in particular for the EU.

The introduction of ITRs would imply significant transposition and administrative costs in MS as well as in the EU. The inter-EU transferability element would further increase administrative costs for the MS and the EU. At some point after the adoption of ITRs, part of these costs would be passed on to the sector and increase administrative burden.

7.3.5. *External dimension*

As a result of the termination of **FPAs**, a priori there would be no fisheries-specific support available for third countries to implement management and conservation measures. Hence, negative consequences for the *environment* are likely. Third countries may decide to replace the EU fleet currently under agreements by other third countries' fleets but it is rather unlikely that revenues obtained from those countries would be earmarked for sectoral support. Furthermore, without FPAs the EU fleet would be operating outside a regulatory framework which – despite its shortcomings – is currently regarded as a best practise and an example for most non-EU fleets; impacts in terms of *governance* are therefore also likely to be negative.

Impacts on the EU fleet would vary between different parts of it. The EU's *tuna* and *small-pelagic* fleets would probably not reflag to other countries as the fishing possibilities they exploit are allocated on a flag basis (RFMOs, EU waters), but they would lose the legal security provided by a binding international agreement while they are targeting transnational stocks. As for fisheries which are currently covered by mixed agreements, it is likely that the *shrimp* fleet, which is not interacting with local fisheries, would be in a position to negotiate private fishing rights. However, this fleet would not have any advantage of continuing to operate under EU member states' flags, and so it would probably reflag to other Coastal States. The *cephalopod* fleet (30-35 trawlers), which is in direct competition with local artisanal or industrial fleets and targets mainly stocks on which there are sustainability concerns, will have major difficulties to obtain private access rights.

In *budgetary* terms, abolition of FPAs would allow savings of €141 million for the EU budget (the total annual payments under current FPAs). However, as part of its cooperation strategy with neighbouring and/or developing (ACP) countries, the EU would probably still want to earmark development assistance for fisheries, a sector that is a potential source of growth and employment in most developing countries. However, the distribution of such funds across countries might change significantly as a consequence of the particular standards of financial governance applicable under general budget support – standards which not all of the countries currently under agreement can meet.

The elimination of FPAs would have no significant impact on *employment* for tuna vessels, small pelagic vessels and possibly vessels under the Greenland agreement since they would be able to negotiate their own access arrangements. A minor impact is expected for the demersal fleet; since the cephalopod trawlers would probably cease activities (half of the 400 EU jobs on the demersal fleet would be lost). In terms of development of the local industry, negative impacts are expected but would be particularly severe in countries where funding alternatives are not available.

Regarding RFMOs, Option 2 would involve a very significant reform of the performance of RFMOs and should imply a quick improvement in global fishery performance. Investments in scientific advice as well as capacity building for control would be financed through non-compulsory contributions by the EU (and hopefully by other contracting parties) and through fees paid by ship-owners in accordance with catches. Larger financial means should yield quicker results.

As a result of these changes, the status of straddling and highly migratory fish stocks is expected to be greatly improved by 2015 or shortly thereafter. However, considerable human and financial resources from the EU, as well as for the obligatory and voluntary commitments of the EU to RFMOs, would be necessary to achieve these improvements.

Payments by ship-owners would have a negative impact on profitability and further reduce fleets, particularly purse seiners and pelagic fleets.

7.4. Option 3

The impact assessment results for this option shows improvement over the period.

7.4.1. Environmental sustainability

Under Option 3, the stocks record a substantial long-term improvement. The number of stocks at F_{MSY} by 2017 and 2020/22 is the same as in Option 1, including those in mixed fisheries. Stock size of modelled populations would increase by 15.76 million tonnes (70%), and catches by nearly 536,000 tonnes (16.55%).

The modelled fleets would reduce by 12.6% by 2017 and 17.7% by 2022. The softer path to F_{MSY} for some stocks (for those where the -15% limitation will play a role) and the longer phasing-in period for the introduction of ITR might slow down the pattern of fleet reduction, particularly in the period between the end of the EFF (2015) and the end of the phase-in period for ITR implementation (2018). The reduction would be similar in the Mediterranean.

7.4.2. Economic sustainability

Income for the modelled fleets would increase by 4% in 2017 and by 13% in 2022. GVA would increase by 35% in 2017 and by 64% in 2022. Net profit margin would multiply by 3.2 (from 5% in 2012 to 13% in 2017 and 16% in 2022), and revenue to break even revenue would increase by 11% (from 1.15 in 2012 to 1.28 in 2022). Finally, return on investment would grow from 3% in 2012 to 9% in 2017 and to 14% by 2022; just below the 15% opportunity costs threshold.

Impacts on processing activities are expected to be positive but limited as regards primary processing because of the lower increase in catches. GVA is expected to grow by 6% in 2017 and 14% in 2022. Secondary processing would not be significantly affected. Ancillary services would see a contraction linked to the reduction of fleets. GVA will reduce by -12% in 2017 and by -18% in 2022.

7.4.3. Social sustainability

Because of the expected additional delay in the time to reach F_{MSY} , very short term social impacts (prior to 2017) should sometimes be somewhat limited, although the sensitivity of the model does not allow capturing them. Nevertheless, the model results are an overall decline of employment of 16% in 2017 and of 23% by 2022, with the SSCF and the >40m segments suffering less than the average, the 2440m segments suffering more and the 1224m segments being on the average.

Crew wages would increase (+52% in 2017 and +100% in 2022). By 2022 employment per vessel in the large scale fleet could increase with improving catching opportunities. This would be a positive development in safety terms.

Ancillary employment reduces (-12% in 2017 and -17% in 2022) and processing employment does not significantly change (-4% in 2017 and +3% in 2022). Employment in secondary processing would remain unaffected.

7.4.4. *Simplification and administrative burden*

RACs will remain. However stakeholder representation will increase as will funding. The workload associated with RACs is likely to increase as they are opened up to greater stakeholder participation and become more involved with scientific advice, and therefore administration costs will also increase. The increase in costs is likely to be in the region of 20-50%, although the total cost to industry depends on the proportion of EC funding. The lacking framework for coordinated regional approaches could reduce management costs in the short to medium term. However, it is likely that the time required to achieve successful implementation will increase as a result of the likely prevalence of national, perhaps diverging views, between MS.

Apart from that, the implications from additional research, the introduction of ITRs and the simplification of the CFP's legal structure will be in line with those under Option 1.

7.4.5. *External dimension*

In *environmental* terms, mixed agreements are often regarded critically, not least because they include demersal stocks which are frequently overfished¹²². The elimination of mixed agreements might therefore help to address concerns about the negative impacts of EU vessels on sustainability and on the local population. This is an option that the EU has already adopted in the recent past with the termination of the agreement with Angola, and with the recent renegotiation of the agreements with Ivory Coast, Mozambique and Gabon from mixed agreements into pure tuna agreements. On the other hand, the elimination of mixed agreements under this Option may also have negative consequences on the stocks concerned, insofar as there would no longer be *any* means for the EU to contribute to their sustainable management.

In *economic* terms, assuming the present exclusivity clause¹²³ is maintained, the demersal EU vessels (especially the shrimp vessels) and the small pelagic vessels would be prevented from concluding private agreements in (some) productive EEZ if mixed agreements are terminated. These fleets would have to reflag or withdraw. The elimination of mixed agreements may also translate into a notable loss of revenues and serious consequences in macro-economic terms, at least for Mauritania and Guinea Bissau and perhaps also for Morocco.

In *budgetary* terms, given that current payments under FPAs amount to 141 million €/year of which 47 million € are dedicated to policy support, the assumptions under this option would entail that 94 million € would be available to be earmarked for sectoral support on the basis of the needs of FPAs partner countries. These are estimated at 103 million €/year for the current FPAs partner countries.

In terms of *governance*, the termination of mixed agreements would reduce rather than increase the proportion of EU vessels that are fishing in external waters within a well-defined legal and institutional framework. In relation to **RFMOs**, the impacts under Option 3 are the same as under Option 1.

7.5. Option 4

Only impacts which differ from those under Option 1 are referred to below.

7.5.1. *Environmental sustainability*

Although some fleets are still likely to move to ITRs, overcapacity will remain, thus reducing compliance and the ability of management systems to achieve the necessary reduction in fishing mortality needed to reach F_{MSY} targets. With this in mind, the MSY policy under Option 4 will create initial declines in catch, particularly of species and stocks that are currently overexploited, followed by increases in catch as stocks recover. However, this increase is likely to occur later, due to some amount of non-compliance.

As regards fleet size, the decline in vessel numbers would be just 6% by 2017 and 9% by 2022. This is the combined result of the elimination of the equivalent to Axis 1 of the EFF after 2015 and the voluntary nature of the move towards ITRs at national level.

7.5.2. *Economic sustainability*

The absence of mechanisms or incentives to reduce fleet size at the EU level after 2015 would reduce the magnitude of several of the expected gains in economic performance. Income would increase by 4% in 2017 and by 13% in 2022. GVA would also improve (31% in 2017 and 58% in 2022). Net profit margin would multiply by 2.89 (from 4.7% in 2012 to 10.3% in 2017 and to 13.6% in 2022). Revenue over break even revenue (8.7%) and return on investment (+7 percentage points by 2022) would also increase. Regarding the latter, the end result by 2022 (+10%) would be very significantly below the 15% threshold.

Implications for the processing sector would be positive for primary processing. GVA would increase by 6% in 2017 and by 14% in 2022. For the ancillary sector GVA would decrease less because of the lower reduction of fleet size: -7% in 2017 and -11% in 2022.

7.5.3. *Social sustainability*

Employment will continue to decline in the catching sector, although only slowly (-13% in 2017 and -18% in 2022). Crew wages would also increase (44% in 2017 and 83% in 2022). However, the attractiveness of the sector will not improve very significantly, despite the increase in crew wage, due to an aging fleet and remaining overcapacity. Employment decline will be less marked in the Mediterranean (-16%), with no further decline after 2017. Progress in crew wages would be more modest (36% in 2022).

Safety will remain concern, as with the removal of scrapping funds vessels will age and become a greater risk, and with the poorer economic performance there would be fewer investments in maintenance.

Impacts on local communities are ambiguous. On the one hand, the voluntary nature of ITR introduction will mean that fishing opportunities will remain with the communities. In addition, the larger fleets may protect employment. However, without subsidies or ITR vessels will age and the combination of lower wages and overcapacity may contribute to a less attractive local fishing industry.

Compared to 2012, processing employment is expected to reduce by 4% in 2017, but could increase by 3% in 2022. No changes are expected regarding secondary processing. Employment trends will be negative for ancillary services: -7% (2017) and -10% (2022).

7.5.4. *Simplification and administrative burden*

In terms of governance, the remaining overcapacity may put tension on the decision making system so that the risk will remain that there would be departures of quotas from

scientific advice at the Council level. Furthermore, different levels of overcapacity across MS may impede or significantly jeopardise effective implementation at regional level which, in turn, could jeopardise achieving targets set by EP and Council. Furthermore, with continued overcapacity, it is unlikely that positive effects on compliance would materialise.

8. IMPACTS OF THE DIFFERENT OPTIONS ON BRITTANY, GALICIA, SCOTLAND AND SICILY¹²⁴

As stated in Section 1.1, the global IA was completed by the comparison of impacts in Brittany, Galicia, Scotland and Sicily. These regions cover the most important sea basins for the EU fleets and are more dependent on fisheries activities than their respective national averages. Together they account for 20% of EU employment in catching, processing and aquaculture, 28% of total landings and 36% of landing value. The main impacts (see Annex 7) follow the same direction for all 4 regions, with some minor differences due to the relative importance of the local stocks for the regional fleets.

9. SENSITIVITY ANALYSIS¹²⁵

According to the IA Guidelines, sensitivity analysis can be used to explore how the impacts of the options would change in response to variations in key parameters. Hence, changes to the assumed values of some important parameters were tested. That concerns first fuel and first sale prices. Additional sensitivities were tested regarding the environmental rules in Options 1 and 2. As regards the former, the mixed fisheries rule in Option 1 ("most valuable") has been replaced by that of Option 2 ("most sensitive") and the model was re-run. This is referred to as Option 1a. As regards the latter, the strict F_{MSY} rule in Option 2 was replaced by the slightly more flexible one in Option 1 and the model was re-run (Option 2a). This is a way to overcome the unfeasibility of the environmental component in Option 2.

Finally, three further sensitivities were tested. The first is the adoption of an active anti-discard policy. The second amounts to eliminating the current VAT exemption applied to fuel used for fishing operations. The last one tries to see the likely impacts of changing the transition period in relation to FPAs.

9.1. Additional fuel price increases

The main run for all analysed options assumes that fuel prices from 2012 to 2022 will be 45% higher than the average price experienced in 2005-07. The sensitivity examined the impact that an additional 50% increase in fuel price from 2012 to 2017 (maintained at this rate to 2022) would have on fleet performance. The experience from 2008 suggests that when fuel price increases, many fleets may lower their activity or adapt their fishing or landing behaviour. As a matter of fact, the increases in fuel costs for 2008 were lower for most fleets than the increase in fuel price. In practical terms, the impacts on fuel costs are modelled to be lower than the price increase.

The additional increase in fuel price would reduce economic and social indicators, which do not outweigh improvements from increased environmental sustainability.

9.2. Lower fish price increases

The sensitivity assumed that the assumed increases in first sale prices did not occur, for whatever reason. Impacts are much more severe than changes in fuel price. Economic performance of the fleet sectors is significantly reduced. This reduction in performance also leads to significant reductions for associated social indicators. However, again they are not sufficient to outweigh improvements resulting environmental sustainability. Consequently, economic performance of the fleet segments still improves in coming

years, even in the absence of an increase in fish price. Negative impacts are the highest in Option 1 due to the higher fish prices expected.

9.3. Option 1a

Under Option 1a, the mixed fisheries rule under Option 2 was tested in Option 1. As regards environmental sustainability, the application of the "most sensitive" results in an increase in the number of stocks managed at F_{MSY} compared to Option 1 in both 2017 and 2020.

Table 15 - Option 1a Total number of EU stocks at F_{MSY}

	Total number of stocks	2017	2020	2020/2017
"northern" stocks at F_{MSY}	89	3	52	89
"deepwater" stocks at F_{MSY}	29	0	7	14
"southern" stocks at F_{MSY}	18	4	11	18
Totals	136	7	70	121

Stock size of modelled populations would increase by 15,756 million tonnes (71.88%) and catches by 550,939 tonnes (17.62%). As regards fleets, the modelled fleets will decrease by 12.47% by 2017 and by 17.6% by 2022.

Regarding economic indicators, net profit margin is expected to multiply by 3.5 by 2022. Income would increase by 15% in 2017 and by 24% in 2022. GVA would increase by 57% in 2017 and by 89% in 2022. Revenue to break even revenue (10% in 2017 and 13% in 2022) and return on investment (+9 in 2017 and +14 percentage points in 2022) increase also quite substantially. The return on investment indicator (17% by 2022) is above the opportunity cost threshold of 15%. Vessels in the 1224m and 2440Mm segments are those most affected by the relatively lower progress in economic indicators.

Ancillary sector performance will decline by 11.55% by 2017 and by 18% by 2022. Furthermore, the processing sector will increase by 16% in 2017 and by 26% by 2022.

Regarding social indicators, employment reduces by 15.37% in 2017 and by 22% in 2022 and crew wage per employee increases by 73% in 2017 and by 125% in 2022).

9.4. Option 2a

As stated above, the environmental rule in Option 2 is unfeasible. Option 2a uses instead the Option 1 type staged development of F_{MSY} management for all currently unassessed stocks. The impacts of Option 2a are almost identical to these of Option 2, but with slightly better performance in 2017 (in terms of income and employment in the catching sector) due to a lower reduction in catches, but less stocks at F_{MSY} level. However by 2022 the benefits of the quicker implementation of F_{MSY} policy under Option 2 leads to better overall performance compared with Option 2a.

9.5. Adopting an active anti-discard and by-catch avoidance policy

It is likely that the reformed CFP would put a very significant emphasis on the reduction of discards and of by-catch. It could take different forms from a move to catch quotas¹²⁶ to a discard ban.

Moving to catch quotas would imply the following elements:

- increased mesh size for those fleet segments that are currently discarding most.
- allowance for retention and landing of all catches (with no minimum landing size) for these segments;
- setting catch quotas rather than landing quotas.

- Technical measures, including measures related to the use of selective gears or closed areas.

Going beyond catch quotas to a discard ban would entail a legal obligation to land all the catch. Furthermore, a discard ban is normally associated with supplementary measures, such as paying for the catching /landings costs, together with decisions as to what to do with the catch of unwanted/over quota fish. In Norway these fish are landed, and a small withdrawal price is paid, and the fish are then sold.

9.5.1. *Environmental impacts*

Generally speaking, the move to catch quotas would result in significant improvements in environmental impacts as the number of small fish, and over-quota fish that are discarded is reduced. These impacts would still be more significant if a discard ban would be introduced as it would immediately reduce the unseen discard of small fish and over quota fish, leading to a much higher rate of recovery of EU fish stocks¹²⁷. This would lead to the number of stocks at Fmsy indicator performing better across all Options¹²⁸. In addition, average age in the stock will increase beyond that indicated for the different options. Although these environmental gains would be common across the options, they will be particularly significant in Options 1a and 2.

In concrete terms, a change in the mesh size leads to a shift in the selectivity towards older age classes. The effect is greater than that achieved by a simple reduction in discards and leads to a higher sustainable fishing mortality (i.e. a higher F_{MSY}). The higher sustainable fishing mortality, combined with the abolition of a minimum landing size (so that there are no discards), results in a higher retained catch, whilst still ensuring recovery of the stock.

The move to catch quotas could lead to significant increases (10-40%) in retained and sold catch of some species currently subject to significant discarding, with no adverse impact on stocks. A discard ban could lead to either higher increases or to increases closer to the upper end of the above interval.

9.5.2. *Economic impacts*

A policy against discards may have two economic impacts. On the one hand it would increase the costs of fishing, particularly in the short term. On the other hand, it may affect first sale prices and, in the short term, could reduce total income.

Regarding the first, a move to catch quotas would most likely result in variable costs increases namely:

- The obligation to keep previously discarded fish on board would reduce the space available for the target species;
- Handling the by-catch would also entail some increases in variable costs. The new gears, would also increase costs, although it could be envisaged to provide some public financial support in that respect¹²⁹;
- The anti-discard policy could require more frequent journeys to port or modifications in fishing zones, which will probably increase fuel costs. Fuel costs will also be increased if vessels actively seek areas with low catches of unwanted species, or for instance temporarily closed areas;
- There will be increased compliance costs, primarily through the requirement to have onboard observers on some vessels. Although these are considered below, they contribute to variable costs.

Impacts on first sale prices and income are less clear. In the short term, the associated increased selectivity of gears would reduce the commercial catch, which could somewhat increase prices in the short term, although it would probably reduce total income from fishing because quantities will reduce more than proportionally with regard to the first sale price increases. In addition, to the extent that there are high price differences

between grades of fish or between species, there would be additional negative impacts on income that will add to those resulting from lower catches of the target species.

Markets for the previously discarded fish could develop, but they are not expected to be sufficiently big so as to compensate for short term income losses.

Furthermore, the policy against discards would amount to an additional short term reduction of fishing activity on top of that resulting from the path to MSY. In that respect, short term economic performance is expected to worsen with regards to figures in the IA. Fleets that discard a long (e.g. beam trawlers) would be particularly affected and would shrink further.

In the long term, according to price flexibilities, increases in retained and sold catches could have some modest negative impacts on first sale prices, but it is also expected that greater environmental performance would improve the image of the sector and be rewarded by consumers in terms of better prices and compensate any downwards pressure. Furthermore, the additional reduction of fleets may accelerate the transfer of fishing effort to more efficient gears (through the ITR systems) and so benefit EU fisheries in the long term.

9.5.3. Social impacts

In fisheries with high discards, an anti-discards policy may entail additional short term losses of employment, as more vessels could leave the sector. This would imply also negative impacts on coastal communities. However, the policy, in particular the obligation to land all catch, could create new job opportunities. The level of job losses and the extent to which they could be compensated by new job opportunities in new unwanted catch processing capacity is unclear, but not negligible.

9.5.4. Simplification and administrative burden

A policy against discards would have associated requirements for control. A discard ban would rely heavily on observations at sea (based on observers on board or electronic monitoring) which will substantially increase the coverage of the fishery activity monitored and, naturally, the associated costs.

Enforcement and monitoring costs would result in an additional burden for fisheries administrations due to high costs of having observers on board and to monitor and analyze catches. Part of these costs could be supported by the industry in the future.

Financial compensations to fishermen concerning landing by-catch may reduce the incentives to discard and, hence, reduce the magnitude of the additional enforcement and monitoring costs. However, if they are not well calibrated they could have negative environmental effects on commercial or non commercial species (for which suddenly there would be a market price) and distort market conditions by increasing supply of target or substitute species, which could negatively affect first sale prices. The way by-catch is used could also have effects down the production and distribution chain.

9.5.5. Balance of impacts

On balance, there is a clear trade-off between additional short term environmental gains and additional short-term economic and social losses. In that respect, a delayed implementation of an active anti-discard policy, for instance after F_{MSY} has been achieved, may attenuate negative economic and social impacts, as fleets would have additional time to adapt. However, it may jeopardise the ability to estimate F_{MSY} and implement effective management to get there, because of the difficulty in obtaining accurate data on discards in EU waters. Positive impacts prevail in the long term.

9.6. Elimination of the VAT exemption for fuel

To assess the elimination of the current favourable tax status for marine fuel that exists in most MS, it was assumed that under Option 2 the current exemption from VAT as well as para-fiscal taxes would be terminated. It was estimated that doing so would be equivalent to an additional fuel price increase of 40% to be added to the fuel price sensitivity considered above. The impacts of removing the fuel tax exemption are almost identical to the impacts of an equivalent, additional increase in fuel price in 2017. In the end, economic performance of the fleet segments still improves, although obviously less than what would be the case if the VAT exemption was not removed.

9.7. From public to private funding of FPAs: variations in the length of the transition period

Options 1 and 3 assume that the costs of access to third countries' waters under FPAs would be gradually shifted from the EU budget to ship-owners, over a period of 3 years. The aggregate impact of varying the length of this period is limited because each FPA (and corresponding Protocol) has a different period of applicability, and the distribution of expected impacts over time is influenced mainly by the schedule of (re)negotiations¹³⁰. Even if no transition period was explicitly defined, all FPAs would be aligned with the post-reform rules only after the last pre-reform Agreement and Protocol have expired.

10. RISK ASSESSMENT

Irrespective of the option finally chosen, there are certain risk factors that could jeopardise the success of the reformed CFP in achieving its objectives. These are detailed and explained below. To the extent possible, risk-mitigation measures are also explained.

10.1. Scientific advice:

The lack of sufficient scientific & economic advice risks having serious negative consequences on environmental sustainability. In the SQ Option, the advance of scientific advice determines the number and time of adoption of LTMP. The modest improvements in the status of stocks depend on the expansion of LTMPs.

Options 1, 3 and 4 require a rapid expansion in scientific activity within a relatively short time for data collection (four years). It would also be costly. The increase in research costs required to bring all stocks under analytical assessment during the next 10 years of the CFP would be around €20 million for these options. Additional sources of scientific advice could be not only the STECF or ICES, but also any other international/national research bodies or even the RACs themselves.

As shown in Table 3, there is some weak assessment for some of the stocks considered in the IA and at least some data about some other. Beyond that sample, the additional scientific advice effort should focus on those which are closer to completion, and within them those which are the most valuable (as far as clean fisheries are concerned) and either the "the most sensitive" or "the most valuable" (as far as mixed fisheries are concerned), depending on the option finally chosen.

There may also be short-cuts that can be taken with the assessments. It probably would not be necessary to have an explicit assessment for least-sensitive species that are not the most economically valuable species. Further, to ensure that the most sensitive species, which are expected to be over-exploited under such an optimum, were not at significant risk of being depleted to the point where they were outside safe biological limits, it would be prudent to develop an assessment of them also. An assessment of the least-sensitive, non-valuable stocks would not be necessary; it could be assumed that they would be fully- or under-exploited, and not in serious danger of being outside safe

biological limits. This would be a sensible trade-off akin to the risk-based management approaches being developed elsewhere (for instance in the USA and Australia). It would allow research costs to be reduced, and the research task to become manageable. These short-cuts will not be sufficient under Option 2. The unfeasibility of the environmental rule concerning Option 2 has already been discussed above and led to Option 2a.

Finally, some proxy assessment and management methods could be required, in particular the use of the precautionary approach, for some stocks (e.g.: deep sea stocks). However, its importance would progressively reduce with the development of scientific advice.

10.2. The combination of high fuel prices and low first sale prices

The assumptions regarding fuel prices reflect the possibility that fuel prices will increase in the next few years to levels close to or above the peak levels in July 2008. Furthermore, under the sensitivity analysis the impacts of further price increases have been tested, showing that, provided that environmental sustainability is achieved and capacity is adjusted, fleets will be able to resist significant price increases or even the elimination of the current tax exemption. However, a fuel price evolution much worse than that will certainly end up breaking the resilience of even profitable fleets.

Regarding first sale prices, the continuation in the future of the current downwards trends for some important species (resulting from further changes in consumer habits, from increasing imports, etc.) will further endanger the profitability of fleets. The analysis above shows the importance of good first sale prices for economic and social sustainability. A very significant reduction of first sale prices will amplify the negative economic and social impacts, particularly in the short term, in all options.

The combination of both very high fuel price increases and low first sale prices risk may in the end have very damaging and negative social consequences and foster political pressure for subsidies and for unsustainable TAC and catches which may jeopardise the success of the reform. This combination scenario would be a catastrophic one, but does not look very likely at the moment. First, because expectations of increasing demand for seafood products and the emphasis on commercialisation and product market differentiation are inconsistent with a dramatic, long lasting and generalised first sale prices decrease and second because fuel prices since July 2008 have actually reduced as a result of the economic downturn and changes in behaviour by fuel consumers.

10.3. Risks associated with the introduction of ITRs

Experience from third countries, including Iceland, suggests that there is a significant risk that ITR regimes, or some aspects of them, may be subject to legal challenge. In general terms ITR regimes have generally speaking not been found to be unlawful *per se*: instead procedural aspects of the manner in which they have been introduced or the way rights have been allocated have been criticized.

10.4. Risks resulting from strategic interaction with third countries

With regard to the external dimension of the CFP, the implementation of any option is conditional upon its being accepted also by the other countries with whom the EU wishes to enter into an agreement or to modify an existing one. In the bilateral context of FPAs, these risks are particularly pronounced, insofar as a single partner country is decisive for making or breaking a deal. Especially those FPA options which imply a substantial decrease in revenues for third countries will be difficult to realise, as in many cases other distant-water fishing nations could try to get the access rights in question.

Some bilateral agreements also affect the EU's relations with countries which are not parties to the agreement in question. For example, the FPA with Greenland – which is a “mixed” agreement comprising various species of fish – affects relations with other partner countries in the North-eastern Atlantic (Norway, Island, Faeroes).

As regards the involvement in RFMOs, although the EU is one of the few players with a strong stance and presence in most RFMOs, and thus is in a position to promote a consistent and integrated approach to international fisheries governance, there can be unwillingness to cooperate from international partners and the multilateral decision-making process can be expected to lead to compromises. Political unwillingness from developing countries to support stringent, conservationist measures, notably with regards to fleet capacity.

Furthermore, there is an ongoing internal review process of RFMOs that should result in the adoption of improved decision-making processes, but it may take time before this process is fully and successfully implemented. A lack of resources to finance increased commitment can lead to delays in the implementation of enhanced involvement in RFMOs. As regards ship owner payment to access fisheries resources on the high seas, it must be considered that in the event that such payments cannot be accepted and agreed by RFMOs, the measures could still be applied unilaterally by the EU, although such an option would entail the risk of reducing the competitiveness of the EU fleet.

11. COMPARING THE OPTIONS

The comparison below covers the five main options and the two sub-options analysed under sensitivity analysis¹³¹. As explained in Section 1.5 above, not all the indicators originally selected have been used to measure and compare impacts. The critical ones for the main three types of impacts are the following: Regarding environmental sustainability, the number of stocks at F_{MSY} is the most important one, but fleet size is also considered. For economic sustainability income, gross value added, net profit margin and return on investment (ROI) are equally important. As for social sustainability, the critical indicator is a composite index multiplying the employment numbers by the wages.

11.1. Environmental sustainability

The SQ Option will not reach environmental sustainability in spite of the modest increases in environmental indicators. All other options and sub-options dramatically outperform the SQ. The number of stocks at F_{MSY} by 2020 would be at least 13 times larger for any of them. For the reasons stated above; though, none of the options or sub-options reach 100% performance.

Option 2 is the one that perform best both in the short and the long term. However, as stated above the environmental component of that option is unfeasible. Having that in mind, the one that performs best is Option 1a. Options 1, 2a and 3 result in a very good performance, although below that of Option 1a, particularly by 2020 (89% of stocks at F_{MSY} compared to 79%). The modelling performance of Option 4 is equal to that of option 1, 2a and 3. From a qualitative point of view it can be argued that the maintenance of overcapacity would negatively affect that performance.

Regarding discards, in the absence of a more active anti-discard policy, Option 1a has the largest potential for reducing discards because of the combination of the best environmental performance, the "most sensitive" mixed fisheries rule, ITRs and the regionalisation component. The "most valuable" rule in Option 1 would reduce the discard reduction potential of that option.

Regarding fleet size, the SQ Option and Option 4 show the largest fleets both short and long term. Options 1 and 3 show the largest reductions closely followed by the rest¹³².

11.2. Economic sustainability

Despite progress, the SQ Option does not allow reaching economic sustainability to any significant extent. All other options and sub-options outperform it to a significant extent.

Options 1 and 1a perform better than the rest both short and long term for all economic indicators. Option 1 performs marginally better than Option 1a, particularly in the long term. This is probably due to the somewhat lower catches resulting from the "most sensitive" rule under Option 1a. It is interesting to note that these options are the only ones where the return on investment exceeds the profitability threshold used to represent the opportunity costs associated with the inherent economic risk of fishing.

The performances of options 2, 2a and 3 are quite similar. Option 2 performs a bit better than Option 2a and 3, but worse than Option 1, mainly because of the fact that stocks will remain underexploited as a result of the mixed fisheries rule, but also because of the elimination of the CMO and of the tariff regime Option 4 performs significantly worse, mostly due to the maintenance of overcapacity and of some level of overfishing.

Regarding processing, particularly primary processing, the SQ Option does not show any significant progress. Options 1 and 1a give the best results both short and long term. As for ancillary services, given the link to fleet size, the best performance is that of the SQ Option, closely followed by Option 4. Options 1 and 1a perform worse than the rest.

11.3. Social sustainability

As stated above, all options bring about a substantial decline in employment in the catching sector. Given their smaller fleet reductions, the SQ Option maintains more employment than any other, closely followed by Option 4. However, in term of wages, the performance of the SQ Option is very poor, whilst in Option 1 it is very good. It is bit above that of Option 1a and significantly above the nevertheless good results of Options 3, 2, 2a and 4. Paradoxically, the social results of Option 3, in particular the average crew share, are slightly below those of Option 1 for 2017 and 2022, even if it was meant to put a higher emphasis on social considerations. In fact, the softer inter-annual TAC variation rule does not have any practical impact. The lower salaries are hence explained by lower income and GVA resulting from the fact that the CMO would not be reformed.

The combination of the two indicators in one composite index¹³³ shows that the best performance corresponds to Options 1 and 1a. They outperform options 2, 2a and 3 by around 12%, Option 4 by 15% and the SQ Option by more than 50%.

This is also the case for primary processing. Secondary processing would remain largely unaffected. As for ancillary services, the SQ Option gives the best results.

11.4. Simplification and administrative burden

In terms of simplification, any option will outperform the SQ. The new structure would be easier to understand and to comply with. The enhanced coordinated regional approaches under Options 1 (and 1a), 2 (and 2a) and 4 should also lead to further simplification. The elimination of all or part of the FPAs would further simplify the policy.

In terms of management costs, regional coordination, ITRs and a simplified CFP should favour compliance and reduce control costs. Remaining overcapacity under Option 4 would nevertheless affect compliance. Furthermore, the increased availability of timely scientific advice and economic data is expected to be a major addition to management costs. It is likely that overtime the consolidation of ITRs would increase the quality of

the available data (resulting from increased compliance and less discards) which could somewhat compensate the increase in management costs. The introduction of ITRs would also imply transposition and administrative costs for MS as well as the EU. The EU-wide transferability would increase such costs. The enhanced regional cooperation would increase management costs to the extent that administrations pay for them. Finally, the elimination of FPAs or the payment of access costs by vessel owners would reduce management costs at EU level to a maximum of €141 million.

The SQ Option would probably be the cheapest in that respect, followed by Option 4, as there would be no costs associated with ITRs. The increased flexibility in Option 3 would probably mean fewer costs. Option 1a would probably be more costly because of the necessity to get scientific advice about the most sensitive stocks, which normally are not very valuable.

Regarding administrative burdens, in the absence of targets at EU level, quantification is difficult. However, simplification should also reduce administrative burdens with regards to the SQ Option. Regarding ITRs, at some point after their adoption, part of the administrative costs would be passed on to the sector and increase their administrative burden. This will not happen in Option 4. The same could happen if the sector would be asked to pay or obtain scientific advice or to pay for access costs in the context of FPAs.

11.5. External dimension

Changes in RFMOs are difficult to ascertain, because the EU is not the only actor there. Nevertheless, assuming goodwill and cooperation from EU's international partners, both Options 1 (and 3) and 2 would result in an improvement of the conservation and management of international fish stocks managed by RFMOs with regard to the SQ Option. Option 2 will do so more rapidly. However it is conditional on getting greater human and financial resources both from the EU budget and from the industry.

Regarding FPAs, Option 2 (and 2a) performs worse than any other option, including the SQ Option. The best performance corresponds to Option 1 (and 1a). The modernisation and rationalisation of FPAs with regard to the conditions for the provision of sectoral policy support should be a significant improvement. Option 3 performs worse because the elimination of the mixed agreements may have significant negative impacts in environmental sustainability terms at local level and would result in a loss of revenue for the Partner Countries.

11.6. Summary

The results of the above comparison of options are summarised in the tables below. Indicators that could be quantified are compared in Table 17:

Table 16 – Expected (qualitative) performance by indicator

Key to scoring is:

- : performance targets not met, and/or a significant worsening of the situation
- : performance targets not met, and/or a worsening of the situation
- = : performance targets not met, but little change in the situation or only very small improvement
- + : performance targets substantially met, and/or significant improvement of the situation
- ++: performance targets met, and/or very significant improvements of the situation

Indicator	Status Quo	Option 1	Option 1a	Option 2	Option 2a	Option 3	Option 4
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	Indictor	Status Quo	Option 1	Option 1a	Option 2	Option 2a	Option 3	Option 4
Environmental indicators	1 Stock situation in terms of fishing mortality in relation to MSY	-	+	++	++	++	+	+
	2 % of stocks and/or catches covered by LTMP	=	+	+	+	+	=	+
	3 Average size (length and weight) of fish	=	+	++	++	++	+	+
	4 Fleet evolution	=	+	+	+	+	+	-
Economic	7 • Gross valued added 8 • Revenue to break even revenue > 1 9 • Net profit margin (NPM) 0 • Return on investment	=	++	++	+	+	+	=
	1 Employment	=	-	-	-	-	-	=
	3 Status of fisheries dependent communities	=	+	+	-	-	+	++
	4 Social sustainability: GVA per employee	=	++	++	+	+	+	=
Social indicators	1 Attractiveness of the sector	=	++	++	+	+	+	+
	2 Safety	=	++	++	+	+	+	-
	8 Departure of quotas from Scientific advice	-	+	+	+	+	-	+
	9 Management costs for the sector	+	-	-	-	-	=	-
Governance indicators	2 Regions and MS having adopting RBM system	-	+	+	+	+	=	=
	2 Data provided by MS	+	+	+	+	+	+	+
	2 Rate of utilization of allocations (quotas)	-	=	=	+	+	=	=
	2 Level of quotas exchanges	-	=	=	+	+	=	-
	2 Time taken to reach a decision	-	+	=	=	=	-	+
	9 Impact for the private sector	=	-	-	--	--	=	=
Simplification	2 Level of implementation simplification process by MS & industry	=	=	=	-	-	=	+
	2 Governance of EC fishing activities in external waters. Local landings	=	++		-		+	
External	7							

Table 17 – Summary of quantifiable impacts

		Status quo			Option 1			Option 2			Option 3			Option 4			Option 1a			Option 2a		
		2012	2017	2022	2012	2017	2022	2012	2017	2022	2012	2017	2022	2012	2017	2022	2012	2017	2022	2012	2017	2022
Environmental sustainability																						
Stocks at Fmsy*	Northern Stocks	3	8	8	3	47	81	3	89	89	3	47	81	3	47	81	3	52	89	3	47	81
	Deepwater stocks				0	5	11	0	14	14	0	5	11	0	5	11	0	7	14	0	5	11
	Southern Stocks				4	9	15	4	18	18	4	9	15	4	9	15	4	11	18	4	9	15
	Total out of 136 stocks	3	8	8	7	61	107	7	121	121	7	61	107	7	61	107	7	20	121	7	61	107
	%	2%	6%	6%	5%	45%	79%	5%	89%	89%	5%	45%	79%	5%	45%	79%	5%	51%	89%	5%	45%	79%
	Evolution of fleet	100	93,4	84,9	100	87,4	82,3	100	87,5	82,4	100	87,4	82,3	100	93,7	91	100	87,5	82,4	100	87,5	82,4
Economic sustainability																						
Catching sector	Income	100	101	102	100	114,3	124,4	100	105	114	100	104,5	112,9	100	104,5	112,9	100	114,6	124,2	100	105	113,9
	Gross Value Added	100	109,9	119	100	157,8	190,5	100	134,9	165,2	100	134,8	163,7	100	130,5	158	100	157,3	189,4	100	134,8	164,7
	Net profit margin	100	147,2	191	100	283	345,3	100	248	324	100	237,7	307,5	100	219,2	289,4	100	283	345,3	100	237,7	324
	RoI 15%=1	100	0,3	0,5	100	0,8	1,2	100	0,6	0,95	100	0,6	0,9	100	0,5	0,76	100	0,7	1,15	100	0,6	0,93
g & ancillary sectors	GVA processing	100	101,7	102	100	117	126	100	106,2	115,3	100	105,8	114,3	100	105,8	114,3	100	116	125,8	100	106,3	115,2
	GVA ancillary	100	93,4	85,5	100	91,7	80,9	100	88,5	82,1	100	88,2	81,6	100	92,8	88,9	100	88,5	82,1	100	88,5	82,1
Social sustainability																						
Catching sector	Employment	100	95,25	90,3	100	83,51	77,18	100	84,45	78,2	100	83,72	76,98	100	86,77	82,24	100	84,63	78,17	100	84,71	78,26
	Average crew wage	100	112,2	126	100	176,4	230,6	100	150,73	198,4	100	152,1	199,6	100	144,3	182,9	100	173	224,88	100	150,1	197,6
	Combined Index SQ=1	100	1	1	100	1,38	1,57	100	1,19	1,37	100	1,19	1,36	100	1,17	1,32	100	1,37	1,55	100	1,19	1,36
g & ancillary sectors	Employment processing	100	101,3	102	100	96	103,8	100	96,2	103,9	100	95,8	102,8	100	95,8	102,8	100	96,2	103,7	100	96,2	103,8
	Employment ancillary	100	92,8	84,6	100	88	82,7	100	88,2	82,9	100	88	82,7	100	92,9	89,9	100	88,2	82,9	100	88,2	82,9

Finally, the following figure allows for a visual comparison of Options and shows their effectiveness with regards to the objectives (in percentage terms).

Figure 7 - Comparison of Options. EU level 2017

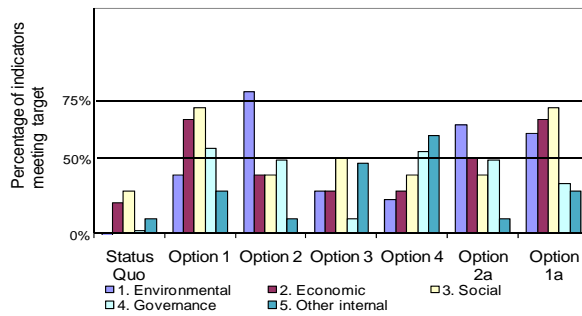
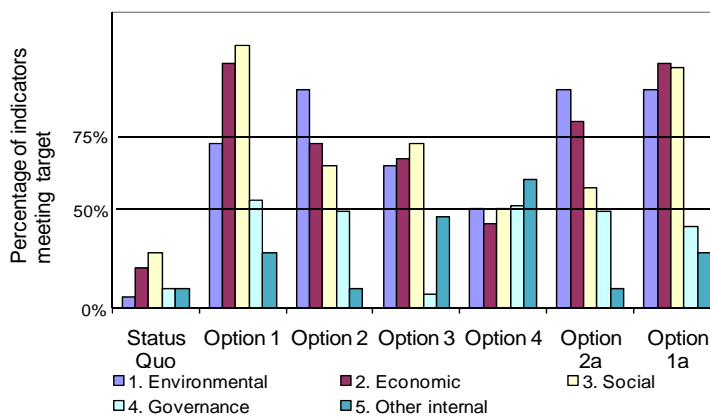
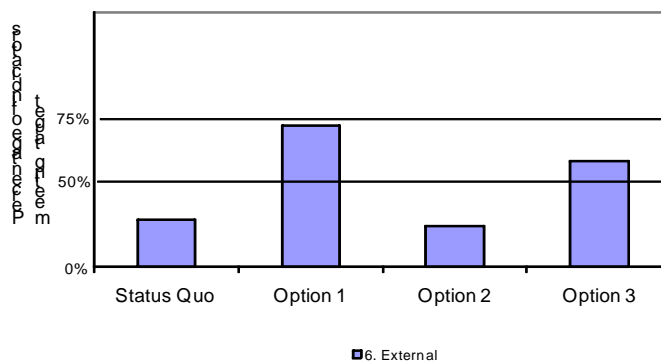


Figure 8 - Comparison of Options. EU level 2022



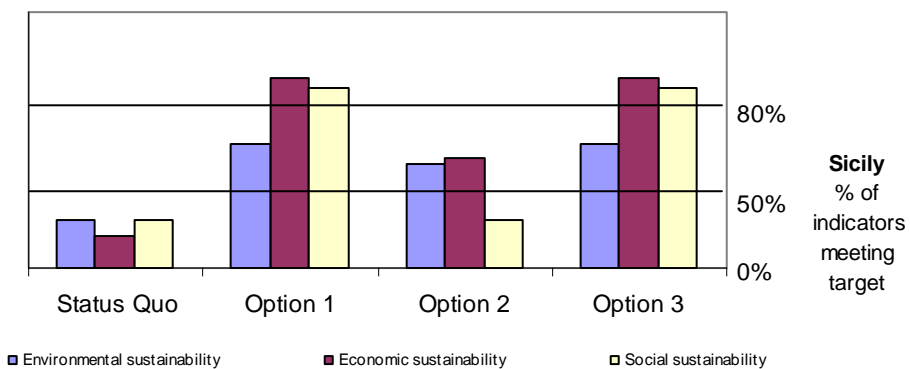
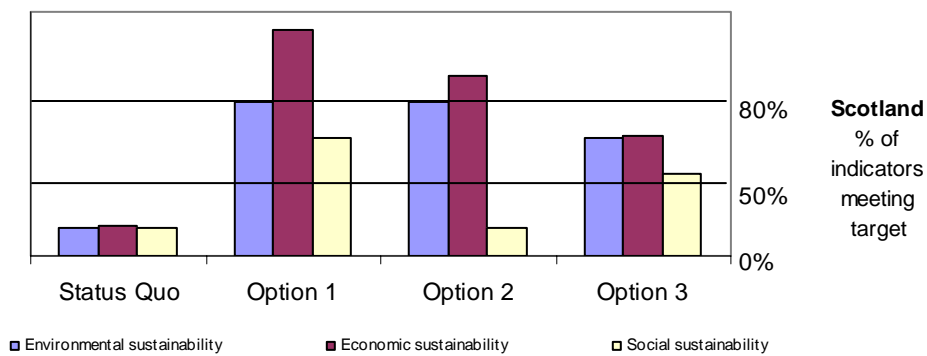
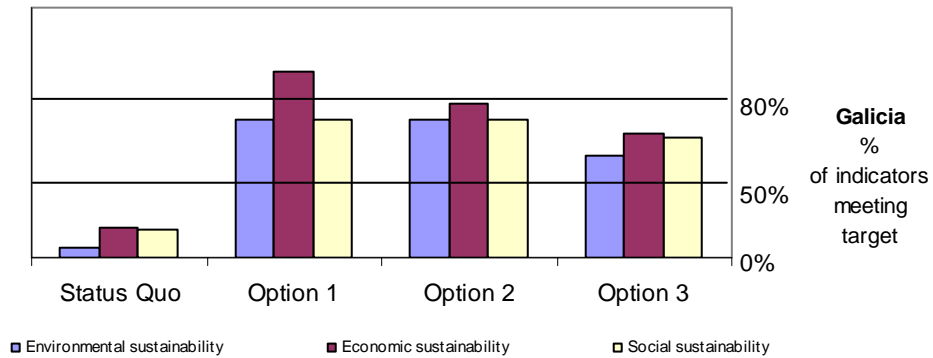
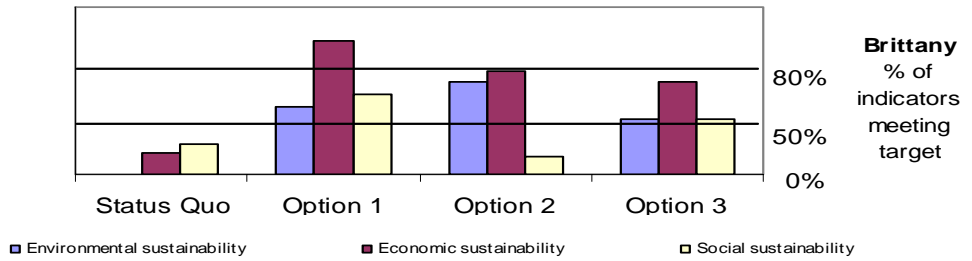
For the external dimension the comparison of Options is given in the following figure:

Figure 9 - Comparison of Options. External dimension



Overall, the impacts on the four regions are expected to differ from, but be broadly consistent with, the impacts over the EU as a whole. The individual region results are presented in figures below. For all regions Option 1 is clearly better overall than Options 2 and 3, but the performance of these latter two options is not consistent across the four regions. Option 2 is marginally better across the three major pillars than Option 3 for Brittany, Galicia and Scotland but the reverse is true for Sicily where the negative impacts of inter-EU transferability of ITRs will not apply, but where the negative impacts of the mixed fisheries rule will be mostly felt.

Figure 10 - Comparison of Options. Regional level



12. THE PREFERRED OPTIONS

From the above analysis of impacts, it is clear that any reform Option is expected to significantly exceed the results of the SQ Option.

Looking at aggregated results, Options 1 and 1a¹³⁴ offer the highest combined results. Option 2 could be said to also perform; as stated above, its environmental component is unfeasible.

For Options 1 and 1a there is a trade off between better environmental results and worse economic and social impacts, but still they seem to outperform the other options.

These results are confirmed also at regional level for each of the four regions analysed.

Furthermore, the analysis allows drawing the following conclusions:

- Prioritising environmental sustainability results in better performance in all three dimensions of sustainability;
- The implementation of ITR reduces overcapacity, improves the economic performance of the involved fleets and increases compliance.
- Eliminating fleet subsidies and reorienting of the financial support towards green smart fisheries and aquaculture and inclusive social development helps reducing overcapacity and appears to improve the situation of coastal communities in the long term.

13. MONITORING AND EVALUATION

Yearly progress will be monitored on the basis of scientific advice, as far as the F_{MSY} objective, and of economic/social information received from MS. The new multi-annual plans based on the results-based management approach will include monitoring tools to measure whether sustainability objectives are timely achieved.

Regarding evaluation, the reformed CFP will take time to be fully in place and produce effects. In view of that, a mid-term review should take place not before 2017. Doing so would imply comparing, for the same sample of fleets and stocks, the projected and actual values of the indicators. Either all indicators or just the following ones, which are the most determinant and those who illustrate best the progress towards objectives:

- Environmental impacts: stocks at F_{msy} , fleet size and progress in the implementation of ITRs.
- Economic impacts: income, GVA, revenue/break even revenue and net profit margin.
- Social impacts: Employment (FTE) and crew wage per FTE.

Figures for 2017 would be available in 2019. Thus, evaluation will be done in that year. Given the time required to prepare and launch a reform of the CFP, it is expected that results of that review would also be the basis for ex-ante evaluation of future reforms.

Progress of scientific advice would also need to be monitored. The current assumption is that 30% of unassessed stocks have scientific advice developed and reach F_{msy} in each of the years 2016, 2018 and 2020. This means that scientific advice needs to have been developed for the first block very quickly after the introduction of the reformed CFP. Finally it would important also to measure performance related to public financial support and its reorientation towards smarter, greener objectives. However, precise objectives and monitoring tools will be defined in the context of the EFF IA.

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ANNEX 11 – EXTERNAL DIMENSION

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OTHER AVAILABLE DOCUMENTS AND STUDIES

- - Synthesis of the consultation on the reform of the Common Fisheries Policy- COMMISSION STAFF WORKING DOCUMENT- SEC (2010) 428 FINAL- 16 APRIL 2010
- A Diagnosis of the EU fishery sector strategy- COMMISSION STAFF WORKING DOCUMENT- 2009
- Environmental, economic, social and governance impacts of the STATUS QUO scenario for the 2012 revision of the Common Fisheries Policy
- Environmental, economic, social and governance impacts of the 2012 CFP revision –Impact Assessment Phase II
- Environmental, economic, social and governance impacts of the STATUS QUO scenario for the 2012 revision of the Common Fisheries Policy – Four Regions SQ. Specific results for 4 case studies: Brittany, Galicia, Scotland and Sicily- MRAG Consortium- July 2010
- Environmental, economic, And SOCIAL and governance impacts of the 2012 revision of the Common Fisheries Policy. Four regions 2nd Phase Specific results for 4 case studies: Brittany, Galicia, Scotland and Sicily- MRAG Consortium- July 2010
- Environmental, economic, social and governance impacts of the 2012 CFP revision –Impact Assessment- Additional Calculations-
- Regional social and economic impacts of change in fisheries-dependent communities - MRAG consortium- September 2010.

- An analysis of existing Rights Based Management (RBM) instruments in Member States and on setting up best practices in the EU
http://ec.europa.eu/fisheries/documentation/studies/rbm/rbm_2009_part1.pdf

ENDNOTES

¹ Council Regulation (EC) No. 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy. OJ L 358 of 31.12.2002, p. 59.

² Council Regulation (EC) No 1198/2006 of 27 July 2006 on the European Fisheries Fund. OJ L 223 of 15.08.2006, p.1.

³ Council Regulation (EC) No 104/2000 of 17 December 1999 on the Common Organisation of the Markets in Fishery and Aquaculture Products. OJ L17 of 21.01.2000, p. 22.

⁴ Regional social and economic impacts of change in fisheries-dependent communities. Project FISH/2006/09. "The Socio-Economic study".

⁵ Green Paper on the Reform of the Common Fisheries Policy (COM(2009)163 final) of 22 April 2009.

⁶ The Maximum Sustainable Yield is the highest yield that may be taken from a fish stock without lowering its productive potential for future years.

⁷ For the purposes of the IAR, SSCF are vessels of the 00-12 meter length class.

⁸ SEC(2010)428 final of 16 April 2010.

⁹ Ares(2011)47044 – 17/01/2011.

¹⁰ Ares(2011)182469 – 18/02/2011.

¹¹ The relative stability principle is a fixed allocation of national quotas, expressed in percentages, to MS. The initial percentages were based on historical track records observed for an agreed reference period (in most cases 1973-78), on compensation mechanisms related to the extension of EEZs to 200nm and on the level of dependence of some coastal regions on fishing (some regions in the UK and Ireland, known as the Hague Preferences). Since 1983, these criteria are compiled in a set of grids per stock or fishery of EU interest. Since 1983, following the successive enlargements of the Union and regulations extending to new fish stocks, relative stability has been evolving by adding new species and allocation keys. The criteria to agree these new allocation keys are case specific, but historical track records by MS are still considered the main criterion.

¹² That figure refers to multi-annual management plans adopted by Regulation. Adding also those in the pipeline by mid-2010 (horse mackerel), the multi-annual plan with Norway for shared stocks (mostly North Sea) and harvest control rules in joint Commission and Council statements to the Council minutes (e.g.: West of Scotland haddock and Celtic Sea herring), close to 82% of total fishing opportunities (in tonnage) in the Atlantic and North Sea will be covered by management plans.

¹³ MRAG (2009) *Fisheries management and recovery plans since 2002. A report to the European Parliament*, IP/B/PECHE/IC/2008-111.

¹⁴ European Commission, 2008 & 2010. *Facts and figures on the Common Fisheries Policy. Basic statistical data*. Luxembourg, Publications Office of the European Union, http://ec.europa.eu/fisheries/documentation/publications/pcp_en.pdf Facts and figures on the Common Fisheries Policy, 2010 edition.

¹⁵ 'Safe biological limits' are defined by a minimum safe stock size and a maximum exploitation rate. These are known as reference points. The stock size is measured in terms of 'spawning stock biomass (SSB)' which represents the total weight of spawning fish each year. The exploitation rate is called the 'fishing mortality (F)' which measures the rate at which fish are removed from the stock by fishing. If the

stock is either below the minimum safe SSB or above the maximum safe F, the stock is said to be outside safe biological limits.

¹⁶ Variation calculated between 1993 and 2005

¹⁷ Facts and figures on the Common Fisheries Policy. Basic statistical data.

¹⁸ EU27: -1.8% average annual reduction (2007-09). EU25: -2.3% average annual reduction (2004-09). EU15: -1.9% average annual reduction (1995-2009). EU12: -1.8% average annual reduction (1992-2009).

¹⁹ The Socio-Economic study.

²⁰ Chapter III of the Basic Regulation. At the end of 2008, actual fishing capacity was 73% of the reference levels and 90% of the entry-exit ceiling.

²¹ SGECA/SGRST-08-01

²² Out of the €3.6 billion paid under the FIFG in the period 2000-December 2008, scrapping accounted for 15% of FIFG expenditure and construction for 13%. 11,530 vessels were decommissioned, 3030 constructed and 7,900 modernised with FIFG funds in the same period. Source Ex-post evaluation of the FIFG 2000-2006. Available at http://ec.europa.eu/fisheries/documentation/studies/fifg_evaluation/fifg_evaluation_final_report_en01.pdf

²³ Axis 1 accounts for 27% of the total EFF budget for the 2007-2013 period.

²⁴ Data taken from the Communication "*Consultation on Fishing Opportunities for 2011*". COM(2010)241 final. 17 May 2010.

²⁵ Such a principle means that the absence of adequate scientific information should not be used as a reason for postponing or failing to take management measures to conserve target species, associated or dependent species and non-target species and their environment. Council Regulation (EC) No. 2371/2002 of 20 December 2002, articles 2.1 and 3(i).

²⁶ ICES tries to estimate discards and integrate these estimations in their assessments but this is not a sufficient solution to the problem.

²⁷ The species showing highest swap volume are redfish, the distribution of which seems to be very much influenced by climate change, cod and hake and some pelagic species - herring, blue whiting, jack mackerel, mackerel, sprat, anchovy and sandeel

²⁸ The Commission gets close to 1000 notifications of swaps per year, 50% of which are nearly permanent, the rest are late year 'regularisations' intended to legitimise excessive catches.

²⁹ The DCF co-finances (max 50%) the implementation of multi-annual national programmes for the collection of biological, technical, environmental and socio-economic data concerning commercial and recreational fisheries, aquaculture activities and processing.

³⁰ COM(2010)241 final of 17 May 2010, In addition, for a further 42 stocks no scientific advice was available. As for the Mediterranean, there are some data for 16 species out of 102. These 16 species correspond to 60 stocks. The status of 18 out of these 60 was unknown in 2010 due to poor data.

³¹ The likely evolution of scientific advice has been taken into account in the modelling of this IA.

³² Because of their relevance for the 57 sampled fleets.

³³ Bluefin tuna and swordfish

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- 34 ICES. 2009. Report of the Working Group on the biology and assessment of deep-sea fisheries resources
- 35 Some initiatives, such as the DEEPFISHMAN (FP7) project may provide some new ways to approach the various data related problems, however it is not expected to be completed before a few years.
- 36 Council Regulation (EC) n° 199/2008 of 25/02/2008.
- 37 The 2009 Annual Economic report on the European Fishing fleet –JRC-STEFCF and European Commission-Publications Offices
- 38 Data about the economic performance of the current CFP are taken from the SQ report included as Annex 4 to this IA., Section 2.2, pages 38 to 58. Annex A-Indicators to the SQ report presents additional, more detailed data, including national chapters (pages 18 to 40). Finally; Annex C to the SQ report presents available data concerning EU aquaculture.
- 39 Source "*La actividad pesquera mundial- una revision por paises*"- Dolores Garza Gil (coordination)- Instituto Universitario de Estudios Maritimos- Netbiblo.2008
- 40 Source *Regional Dependency on Fisheries* – European Parliament Project n° IP/B/PECH/ST/IC/2006-198
- 41 For the Peloponnisos (GR), Algarve (PT), N-E Scotland (UK) and Açores, the fisheries sector is between 1-2 % of regional GDP. For Brittany and the Low Normandy (FR), Latvia and Calabria (IT), the fisheries sector accounts for 0.5-1 % of regional GDP
- 42 The highest dependency (81%) is that of Killybegs (IE).
- 43 Consumption = Production + Import – Export ⇔ 13=6+9-2, excluding non-food use.
- 44 Most of the vessels do not fish in EU waters.
- 45 Break-even revenue (or break-even point) is the point at which income or turnover is equal to costs (excluding depreciation and interest). The ratio of revenue to break-even revenue is therefore calculated by taking the revenue and dividing it by the costs (excluding capital costs).
- 46 Net profit margin is defined as the net profit divided by the total income i.e. the value of landings (in the case of the catching sector) or turnover or sales (for the processing sector), plus subsidies and additional income.
- 47 In many SSCF, net profits are likely to be accounting for the unpaid remuneration of the operators, when they are owners or family members working in the family business. It is likely that the effective net profits of the small scale fleets are lower, and this may be especially the case in southern countries.
- 48 Fuel prices at the end of 2010 are approaching 0.6€/litre, close to 30% higher that prices at the end of December 2009 and 70% higher than those at the end of 2008.
- 49 The CMO has five instruments: (1) organisation of the sector (producer organisations and inter-branch organisations); (2) price support system based on intervention; (3) common marketing standards; (4) autonomous tariff arrangements for imports of some raw materials for the EU processing industry; and (5) consumer information.
- 50 http://ec.europa.eu/fisheries/publications/studies/evaluation_markets_summary_en.pdf.
- 51 Facts and figures on the Common Fisheries Policy. Basic statistical data.

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- ⁵² Etude des performances économiques et de la compétitivité de l'aquaculture de l'Union Européenne. Study by Ernst & Young, AND-I, Eurofish and Indemar for the European Commission, December 2008. http://ec.europa.eu/fisheries/documentation/studies/aquaculture_2008_fr.pdf.
- ⁵³ Facts and figures on the Common Fisheries Policy. Basic statistical data.
- ⁵⁴ Facts and figures on the Common Fisheries Policy. Basic statistical data.
- ⁵⁵ Benoit Mesnil. "Public-aided crises in the French fishing sector". Ocean and Coastal Management. Volume 51, Issue 10
- ⁵⁶ The central Governments action's for sustainable fisheries, Risksrevisionen, November 2008, ISBN 978 91 7086 1727.
- ⁵⁷ The table does not include public support from other EU structural funds, which in some cases (e.g.: Carboneras) have been far bigger than support to fisheries.
- ⁵⁸ Counting also countries which were not MS at that time. Facts and figures on the Common Fisheries Policy. Basic statistical data.
- ⁵⁹ Employment in the fisheries sector: current situation (FISH/2004/4); See http://ec.europa.eu/fisheries/documentation/studies/employem/indext_en.htm
- ⁶⁰ Around 45% of EU fishermen work on board on small scale coastal vessels while the rest of EU fishermen are active in the off-shore fleet. About 20% of the employment on board is part-time, mainly in the small scale coastal fleet.
- ⁶¹ Estimated at approximately 5 million jobs for the EU-25 in 2004/2005. An exhaustive analysis of employment trends in all sectors or using sea resources. Final report for the European Commission Ecotec Research & Consulting.
- ⁶² According to the European Restructuring Monitor Report 2008: More and better jobs: Patterns of employment expansion in Europe countries in "A diagnosis of the EU fisheries sector" – Commission Staff working Document (2009), employment in the agriculture, hunting and forestry sectors declined by 11%.
- ⁶³ Employment in the catching sector has declined in 21 out of the 24 coastal locations analysed in the socio-economic study.
- ⁶⁴ All black data are AER 2007 data except national employment data, which origins from Eurostat LFS. The blue origins from the EU Commission 2009 and is for 2007. The red data are AER 2006.
- ⁶⁵ An exhaustive analysis of employment trends in all sectors or using sea resources. Final report for the European Commission Ecotec Research & Consulting.
- ⁶⁶ This problem is not limited to the fisheries sector. There is a growing shortage of European seafarers in general and this shortage is perceived as a threat to the European maritime industry. See Preparatory study for an impact assessment concerning a possible revision of the current exclusion of seafaring workers from the scope of EU social legislation. MRAG and others, April 2010.
- ⁶⁷ As regards safety on board fishing vessels, two EU Directives are applicable:
-Directive 97/70 introduces into Community law the provisions of the 1993 Torremolinos Protocol, laying down safety standards for sea going fishing vessels longer than 24 metres. Provisions are extended to third country vessels landing in an EU port, in order to enhance safety and to avoid a distortion of competition.
-Directive 93/103 introduces minimum safety and health requirements for work on board of fishing vessels longer than 15 metres.

⁶⁸ For a description and analysis of the EU labour legislation and of the work in process see Preparatory study for an impact assessment concerning a possible revision of the current exclusion of seafaring workers from the scope of EU social legislation. MRAG and others, April 2010, submitted to DG EMPL.

⁶⁹ For the performance of the plaice box, the Shetland box and other marine protected areas, see http://ec.europa.eu/fisheries/documentation/studies/revision-of-the-plaice-box_en.pdf.

⁷⁰ Study on the European External Fleet, Final Report, January 2008, page 3. Some European coastal fishing vessels take advantage of the seasonal availability of external type resources close to European coasts as a means of diversifying their activities, however, within the scope of the external fleet, only those vessels that operate within external fisheries for at least 90% of their activity are included in the figure of 718 vessels. Around 300 of these fish under FPAs (average 2004-2008), see Annex n° 11 on External dimension and the ("Overall evaluation of FPAs")..September 2009

⁷¹ Annex 11, Table 1 contains an overview of the EU's current FPAs and their financial volume. For a comparison between financial contributions paid under FPAs and general EU development aid to the same countries, see also the " Overall evaluation of FPAs" September 2009 , Section B.2.4.

⁷² The first generation of fisheries agreements were openly commercial (buying fishing possibilities from third countries to the benefit of the EU fleet), although they also included some specific and piecemeal development cooperation projects.

⁷³ It is difficult to quantify the overall extent of this "overpaying" for external fishing opportunities because the costs and benefits are assessed for each FPA individually at different points in time, on the occasion of forthcoming renewal negotiations.

Nevertheless the ratio between the financial amount of Community intervention and the turnover of the fleets shows that, on average in 2004-2007, the EC pays the equivalent of 31% of vessels' turnover in exchange for access. Changes in this indicator of Community payments in relation to revenues for the period 2004-2007 show an improvement in performance for the tuna agreements, which can be linked to a favourable price climate and a gradual reduction in the Community commitment (from €75 to €65 per tonne). For mixed agreements, the indicator is declining due to (a) a mediocre use of some negotiated opportunities, (b) the prices of target species which tend to fall, and (c) the entry into force, in 2007, of the agreement with Morocco which appears relatively "expensive" compared to the measured benefits at the level of turnover.

⁷⁴ Again, the amount of unspent funding is a "moving target" that is quantifiable only for individual agreements at specific and varying points in time. It can also change quite rapidly. For example, in the case of Morocco, less than one third of the EU's funds for sectoral policy paid until then had been used in early 2010 but this figure rose to roughly two thirds by the end of the year.

⁷⁵ Report submitted to the resumed Review Conference in accordance with paragraph 32 of General Assembly resolution 63/112 to assist it in discharging its mandate under Article 36, paragraph 2, of the Agreement, 4 January 2010, A/CONF.210/2010/1, p. 103.

⁷⁶ General facts regarding world fisheries, United Nations Department of Public Information, May 2010, DPI/2556D.

⁷⁷ Which entered into force by late 2000.

⁷⁸ Report of the resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 27 July 2010, A/CONF.210/2010/7, p. 40.

⁷⁹ Report of the International Workshop on RFMO Management of Tuna Fisheries, Brisbane, Australia, 29 June to 1 July 2010 (Doc. No. TRFMO2_W4_1_ENG)

⁸⁰ European Court of Auditors' Special Report n°7/2007, on the control, inspection and sanction systems relating to the rules on conservation of Community fisheries resources together with the Commission's replies. OJ C317/1 of 28.12.2007.

⁸¹ Green paper on the reform of the Common Fisheries Policy. Page 4.

⁸² Communication from the Commission to the Council and the European Parliament on the role of the CFP in implementing an ecosystem approach to marine management. COM(2008)187 final. 11/4/2008

⁸³ Environmental, Economic, Social and Governance impacts of the STATUS QUO scenario for the 2012 revision of the Common Fisheries Policy. Executive Summary. Page 8. MRAG, March 2010.

⁸⁴ A synthetic picture of the problems, objectives, policy tools and outcomes is given in Annex 3.

⁸⁵ Communication from the Commission to the Council and the European Parliament on Implementing sustainability in EU fisheries through maximum sustainable yield. COM(2006) 360 final.

⁸⁶ 2008/56/EC

⁸⁷ According to whereas 27 of the Control Regulation, MS should ensure that recreational fisheries are conducted in a manner compatible with the CFP objectives. According to Article 55, for stocks subject to recovery plans, MS shall monitor, on the basis of a sampling plan, catches by recreational fisheries. Where a recreational fishery is found to have a significant impact, the Council may decide to submit it to specific management measures.

⁸⁸ Changing the safety regulations falls beyond the scope of the CFP.

⁸⁹ The Council agreed that administrative burdens arising from EU legislation, including national measures implementing or transposing that legislation, should be reduced by 25% in 2012

⁹⁰ See Annex 12.

⁹¹ The Norwegian Directorate of Fisheries, Statistical review.

⁹² See the study *An analysis of existing Right-Based Management (RBM) Instruments in Member States and setting up best practices in the EU*, MRAG 2009. Available at http://ec.europa.eu/fisheries/documentation/studies/rbm/rbm_2009_part1.pdf.

⁹³ A number of safeguards are inbuilt in the Norwegian TFS system, such as extensive limitations in quota concentration on one vessel, geographical limitations on quota transfers and scraping requirements.

⁹⁴ In economic theory terms, fisheries are characterised by what is referred to as the "Tragedy of the Commons". It amounts to the observation that individuals operating in their own interest tend to overexploit a common-pool resource, that is a resource where yield is determined by nature but the use of which is rivalrous (what one fisherman takes today cannot be caught tomorrow by somebody else) and open to all. Under such circumstances, the harvesting costs imposed on others (e.g.: less fish to catch, damage to the habitat, etc) are not taken into account by fishers when they make their decision as to how much fish to catch. This is a form of negative externality which suggests that "*in the absence of management, ownership or controls on fishing, there will be too much fishing, and too many fish harvested*". The common-pool nature of fisheries resources implies that in the absence of regulatory intervention regarding access, stocks will be exploited at levels which will lead to the decline of the stocks and even to commercial extinction. 'Economics for Fisheries Management'. Grafton, Kirkley, Kompas, Squires. Ashgate Studies in Environmental and Natural Resource Economics, 2006.

⁹⁵ It has to be noted however, that the inter-MS transferability of ITRs under Option 2 *de facto* implies the elimination of the relative stability principle.

⁹⁶ Defined as a governance environment where the (political) decision making obliges the implementing actors to ensure that the implementation process and products contribute to achievement of the desired results (formulated in light of the objectives, targets and standards set in legislation).

⁹⁷ The Package on the reform of the CFP would comprise: (i) an overarching communication, (ii) a communication on the reformed international dimension of the CFP covering the RFMOs and the FPAs, (iii) a proposal for a basic regulation of the EP and Council for the new CFP, and (iv) a proposal for a regulation of the EP and Council on the reform of the market policy. This package will be followed by a proposal for a regulation on a single financial instrument.

⁹⁸ See Section 1.3 above.

⁹⁹ A comprehensive overview of the options is given in Annex 4.

¹⁰⁰ Furthermore, it is relevant to refer to the elimination since 2004 of aid for new vessel construction

¹⁰¹ The possible impacts of other pieces of legislation or tools was not measured because either their contents is not yet known or because they are not yet in force. The national management plans for the Mediterranean Sea are clear examples of that. The same applies to the up-coming WTO-limitations regarding fisheries subsidies, even if under Option 2 all subsidies are presumed to have been discontinued.

¹⁰² For a thorough description of the methodological approach and assumptions, please see Annex 3, Annex 4, pages 15 to 22 and Annex B – "EIAA model methodology and results" (Status Quo report) and Annex 5, in particular annexes B – "Bio-economic model methodology and results" and C – "Detailed and Supportive Information" (Impact Assessment Phase II (4 options)).

¹⁰³ The composite index is the result of multiplying the employment indicator by the wage by FTE indicator.

¹⁰⁴ Annex 5 contains the list of all indicators originally chosen for the IA.

¹⁰⁵ For break even revenue, an index above 1 is required. Furthermore, for return on investment, a high margin level (>15%) was selected for the catching sector. This high value is intended to reflect the high risky nature of investments in the catching sector and gives an idea of opportunity costs.

¹⁰⁶ Out of the list of indicators referred to in Annex 5.

¹⁰⁷ Longer-term and indirect impacts of changes/reductions to Axis 1 would be experienced through stock recovery on the assumption that current subsidies policy is contributing to overcapacity, and are already dealt with in the model through the assumptions about the impacts of ITRs on fleet capacity

¹⁰⁸ For additional information on the characteristics and bio-economic models, see http://ec.europa.eu/fisheries/documentation/studies/bioeconomic_models_en.pdf

¹⁰⁹ Assumptions about the future evolution of first sale prices are the result of the combination of two elements. The first amounts to impacts associated with increasing environmental sustainability. The second relate to the evolution of market policy and tariffs.

Regarding the first, increased landings could bring about some modest first sale price decreases in accordance with the modelled price flexibilities (a 10% increase in landings would reduce prices somewhere in between 2 and 5%). These price decreases will be more than compensated by several expected gains. The first is the fact that demand for fish in the EU will grow in the future. The second is substitution effects: the increased availability of local product could allow some traditional, lost markets to be gained back (for example, cod could replace back imported Alaska Pollock in fish & chips). Further price gains are expected from the increase of size of fish in the stock and the catch (e.g. larger plaice commands a much higher price than small plaice). Further price increases can be expected as the image of fishermen as custodians of the sea improves, particularly resulting from increasing stocks but also, in Options 1 (and 2), arising from lower rates of discarding with the increased uptake of ITRs and activities

of strengthened regional bodies. To the extent that the most sensitive" rule in Options 1a and 2 will imply that some stocks will remain underexploited, further price increases could be expected.

Regarding the second, gains to prices are expected to be supported by the re-direction of CMO policy and the maintenance of the tariff regime in Options 1 and 1a, (but also positive with its retention in Option 3). A decline in prices is anticipated in Option 2 with the removal of tariffs and the CMO.

Taken overall, the changes in fish price in real terms is assumed, in the model, to be 20% in Option 1 (10% in 2012, with the introduction of the new CMO direction, and 10% in 2016 as stocks recover), and 10% in Options 2, 3 and 4.

¹¹⁰ Impact Assessment Guidelines, SEC(2009)92. 15.012009, pg 25.

¹¹¹ Annex 4 explains in detail the assumptions made in each option.

¹¹² The expectation of continuing trend is that the proportion of fishable area in the EU that is under MPA or fishing protection will continue to increase, potentially to surpass 30% by 2022. This assumption applies mutatis mutandis to all reform options.

¹¹³ Catches of the modelled stocks by 2012 will be 75% of these in 2007. Catches by 2022 will still represent 88% of these in 2007.

¹¹⁴ 15% and 24% reduction compared with fleet size in 2007.

¹¹⁵ The number would decrease from 305 in 2010 to 241 in 2015 and to 189 in 2020.

¹¹⁶ It has to be noted that by the end of the period the improvement in stock status and economic variables may led some fleets to grow in size.

¹¹⁷ Technically, in the model these fleets get to the maximum possible number of days at sea per year. To overcome that, employment on board increases. This is actually what happens with tuna vessels in the Indian Ocean for example. Vessels rotate crews to continue fishing

¹¹⁸ Annex 10, Table 8

¹¹⁹ See Annex 10, p. 13., for a detailed analysis of different payment modes' impacts.

¹²⁰ See Annex 11, text after Table 9.

¹²¹ Inter-EU transferability is unlikely to impact the Mediterranean unless there was development of high seas / CFP management of stocks.

¹²² The agreement with Greenland is less controversial in terms of environment impacts than other mixed agreements, insofar as robust scientific advice on the demersal fisheries concerned is provided by the International Council for the Exploration of the Sea (ICES).

¹²³ The exclusivity clause which is enshrined in current FPAs generally prohibits EU vessels from obtaining private fishing licences in countries with which the EU has concluded an FPA.

¹²⁴ The full analysis is included in Annexes 6 and 7 below.

¹²⁵ Sensitivities are developed in Section 5.4 of Annex 5, pages 19-26.

¹²⁶ The introduction of catch quotas does not look to be useful as regards the Mediterranean, given that managements is based on fishing effort.

¹²⁷ This effect has been seen in Norway, where as a result of the discard ban many stocks have made effective and rapid recoveries.

¹²⁸ This results from two effects; first, information about stock situation and interactions between species will significantly improve and second the mixed fisheries rule will, in practical terms, be closer in all cases to the "most sensitive" one.

¹²⁹ Addressed in the IA for the new financial instrument.

¹³⁰ Annex 11, Table 10 and accompanying text.

¹³¹ The comparison does not taken into account the possibility of adopting an active anti-discard policy, because of the absence of quantified data and because the magnitude of changes in impacts are not such that will change the order of the options.

¹³² It is possible that Option 2 should see larger fleet reductions than Options 1 (and 1a) and 3 in view of the very quick reduction of some TACs required to get to Fmsy by 2015. However, the EFF would still be applicable until 2015 so that MS could use Axis 1 (measures to the adaptation of the Community fishing fleet), in particular temporary cessation (Article 24) or socio-economic compensation under Article 27.1(a) to fleets to survive these TAC reductions. In addition to that, MS could re-direct resources under other axes to Axis 1 to enhance the protection given to fleets. Where these possibilities are available also to the other options, the additional flexibility under Options 1, 1a, 2a, 3 and 4 make it less probable that emergency, short-term actions by MS will be required

It has to be further added that most of the capacity reduction in the model stem from the introduction of ITRs. This helps to explain why fleet sizes are very close under options 1, 1a, 2, 2a and 3. The model does allow to measure the EU-wide transferability of FTS under options 2 and 2a.

¹³³ The results for the SQ Option for 2012, 2017 and 2022 are then made equal to 1.

¹³⁴ The unfeasibility of the environmental sustainability rule under Option 2 was discussed above.