

POLICY BACKGROUND

Policy-relevant issues in Aquaculture & Fisheries

European Policies and Aquaculture



General introduction of the European Policies and Aquaculture

The core policy that influences aquaculture, primarily the fish and shellfish production sectors, is the Common Fisheries Policy (CFP), which is the European Union's instrument for the management of both fisheries and aquaculture¹.

It was created originally to manage a common fisheries resource and to meet the obligation set in the original Treaties of the then European Community. Because wild fish are a natural and mobile resource they are considered as common property. In addition, the Treaties that created the Community stated that there should be a common policy in this area, that is, common rules adopted at EU level and implemented in all Member States.

The first common measures adopted for fisheries

The first common measures in the fishing sector date from 1970, at a time when professional fish and shellfish farming was limited to freshwater and small companies. They set rules for access to fishing grounds, markets and structures. It was agreed that, in principle, EU fishermen should have equal access to Member States' waters. However, in order to ensure that smaller vessels could continue to fish close to their home ports, a coastal band has been reserved for local fishermen who have traditionally fished these areas. Measures were also adopted for a common market in fisheries products. A structural policy was set up to coordinate the modernisation of fishing vessels and on-shore installations.

Aquaculture & Processing – vital components of the European fisheries industry

The sectors of aquaculture and seafood processing in the European Union are growing industries. In addition to being important sources of fishery products to European consumers they also provide substantial employment opportunities in areas dependent on fishing. They are included within the remit of the Common Fisheries Policy since:

- Aquaculture's products are in the same market-place as those of fisheries and, in the case of Mariculture, may even occupy the same environment.
- Seafood processing includes the products of both fisheries and aquaculture.

The aquaculture industry of the European Union (EU-25) produces a total of 1.3 million tonnes of fishery products a year for a value of about €3 billion. This represents about one-third of the total value of EU fishery production and about a fifth of its volume. In some Member States the value of farmed fishery products is greater than that of landed products. In many others, aquaculture represents an important part of their total production.

Processed fishery products include preparations, canned, fresh, chilled, frozen, smoked and dried fish, crustaceans and molluscs. The value of the processing sector's production (estimated at €18 billion) largely exceeds that of both landings and aquaculture.

These observations demonstrate the increasing importance of viewing the individual components of the entire value chain that concerns fish and seafood.

The CFP today

The simplest explanation of the Common Fisheries Policy is that it "shall ensure exploitation of living aquatic resources that provides sustainable economic, environmental and social conditions. For this purpose, the Community shall apply the precautionary approach in taking measures designed to protect and conserve living aquatic resources, to provide for their sustainable exploitation and to minimise the impact of fishing activities on marine eco-systems.

It shall aim at a progressive implementation of an eco-system-based approach to fisheries management. It shall aim to contribute to efficient fishing activities within an economically viable and competitive fisheries and aquaculture industry, providing a fair standard of living for those who depend on fishing activities and taking into account the interests of consumers.”

Common measures are agreed in the following main areas:

- **Conservation and limitation of the environmental impact of fishing** - to protect fish resources by regulating the amount of fish taken from the sea, by allowing young fish to reproduce, and by ensuring that measures are respected.
- **Structures** and fleet management - to help the fishing and aquaculture industries adapt their equipment and organisations to the constraints imposed by scarce resources and the market; measures aimed at creating a balance between fishing effort and available fish resources are also in place;
- **Markets** - to maintain a common organisation of the market in fish products and to match supply and demand for the benefit of both producers and consumers;
- **Relations with the outside world** - to set up fisheries partnerships agreements and to negotiate at the international level within regional and international fisheries organisations for common conservation measures in deep-sea fisheries.

The CFP and Aquaculture

While it is clear that the CFP’s main considerations have historically been focused on fisheries, the incorporation of aquaculture and processing as key components of the CFP is most marked within the **Structures** and **Markets** components.

Structural Measures of the CFP – The European Fisheries Fund

The EU’s structural policy helps the fishing, aquaculture and processing sectors adapt to today’s needs. Funding is available from the **European Fisheries Fund**² for realising projects in all branches of fishing and aquaculture and for measures to identify and promote new market outlets. The main objective of the EFF is to grant financial support to the European fishing industry, during the period 2007-2013, with a view to help it adapt to evolving needs.

The Fund will particularly focus on:

- supporting the major objectives of the Common Fisheries Policy (CFP), particularly those agreed during the reform of the policy in 2002. This includes in particular the sustainable exploitation of fisheries resources and achieving a stable balance between these resources and the capacity of Community fishing fleet ;strengthening the competitiveness and the viability of operators in the sector ;
- promoting environmentally-friendly fishing and production methods;
- providing adequate support to people employed in the sector.
- fostering the sustainable development of fisheries areas;

To what extent does the EFF focus on aquaculture?

The EFF was designed as a tool to help deliver sustainability for the fishing industry. Aid will promote and accompany the adjustment of fishing fleets to available resources, particularly for those targeting endangered stocks. Consequently, while the aquaculture focus remains limited, there are several areas of interplay and components of importance for aquaculture development.

The environmental dimension is also reinforced through a set of measures to promote selectivity and reduce the negative impacts of fishing and aquaculture activities on the environment.

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The Fund will also dedicate more attention to the preservation of human resources in the fisheries by providing adequate answers to the economic and social needs of the people employed in the sector – some of these considerations apply to aquaculture.

The EFF will contribute better to the sustainable development of fisheries areas, particularly those which are heavily dependant on fishing, through the financing of local development strategies – which may include aquaculture - designed and implemented by the stakeholders themselves.

While the initial proposal limited aid to small and micro enterprise operating in the aquaculture, procession and marketing sectors, it will now be possible to grant aid to medium and some large enterprises, provided micro and small ones will be given priority. In addition, new compensation could be granted for fish farmers whose businesses are located in the NATURA 2000 protected areas.

Support for inland fisheries and producer organisations – where interest has been declared within the aquaculture sector - are maintained.

EFF will thus continue to support the sustainable development of European aquaculture. Shellfish farmers, temporarily unable to harvest their production due to unforeseen circumstances, will be eligible for aid. The development and application of methods and practices that lessen the impact of aquaculture on the environment, the implementation of measures to promote hygiene and protect public health as well as initiatives to enhance marketing conditions of fisheries and aquaculture products will be eligible for EFF aid. The focus will be on support for small enterprises although larger enterprises may also receive funding. These objectives will also guide funding to the processing and marketing of fisheries and aquaculture products. Support for inland fisheries will be maintained and new possibilities will be offered to compensate for the temporary cessation of inland fishing activities subject to Community conservation measures and to the reassessment of inland fishing vessels to other activities.

Promoting collective interest

Aid will be available for projects undertaken by representatives of, or organisations from, the fisheries or aquaculture sector and which contribute to the sustainable management or conservation of fisheries resources, strengthen transparency in the markets in fisheries and aquaculture products or promote partnership between scientists and players in the fisheries sector.

Examples of such projects include: the protection and development of aquatic resources, modernisation of fishing ports and landing sites, promotion and development of new markets for fisheries and aquaculture products and pilot projects in increasing and disseminating knowledge in the protection of fisheries resources.

How does the EFF address the social and economic concerns in the sector?

The EFF proposal puts a much greater emphasis on the social and economic dimension of Community support. First of all, Member States will be invited to lay down, among other issues, their strategy with regard to preserving human resources and securing sustainable employment in the sector.

Aid to upgrade professional skills, improve working conditions and safety will be available for all persons employed in the fisheries sector, be it on board vessels, within aquaculture and processing units, fishing ports or landing sites.

The local strategies for the sustainable development of fisheries areas to be funded by the EFF will also be driven by the objective of improving the quality of life and maintaining the economic and social prosperity of the areas concerned.

How is the gender perspective taken into account in the EFF?

The EFF stipulates that – as an all-encompassing principle - the equality between men and women has to be respected and that the gender perspective has to be promoted in all stages of implementing national EFF programmes.

The Fund will support the networking and exchange of best practice among organisations promoting equal opportunities between men and women.

The local development strategies to be supported by the Fund should also provide tailor-made answers to the needs in terms of improving professional skills, workers adaptability and access to employment, particularly in favour of women.

How will the EFF ensure a sustainable development of aquaculture?

The EFF strongly focuses on the development of a sustainable aquaculture sector. It targets:

- employment increase,
- the production of healthy, safe and high quality products complying with the market needs and
- the promotion of environmentally friendly methods of production.

Community financial support will therefore concentrate on species diversification and environmentally friendly production. In the meantime, support may also be given to horizontal measures like promotion of the market for aquaculture products or the collective purchase of equipment.

The EFF introduces special aqua-environment measures, allowing compensation for the use of aquaculture production methods that are benign to the environment and the natural landscape. The EFF may also contribute to the financing of plans for the eradication of many aquaculture animal diseases, grant compensation to mollusc farmers in case of contamination and suspension of their harvest for public health protection purposes.

What type of support will the processing and marketing sectors enjoy from the EFF?

Most fish processing and marketing enterprises, with the exception of the retail sector, will have the opportunity to receive the EFF assistance. Different rules on aid intensity will apply according to the size of enterprises. Investments to improve working conditions, health and hygiene standards, protect the environment and provide high quality products will be eligible for support. Moreover, innovation will be considered as a key aspect not only for products but also for production methods and application of new technologies. In the current context of scarcity of raw materials, the Fund will promote a better use of little-used species, by-products and waste.

Finally, the Fund will also assist the marketing of products mainly originating from local landings and aquaculture.

What is the relationship between the “national strategic plans” and the EFF programmes?

Member States are invited to establish, at the latest when submitting their EFF programmes, a “National strategic plan”. This document will present an overall strategic vision of each Member State with regard to the medium term development policy of the fisheries and aquaculture sector. It covers all areas of the CFP, its scope is therefore broader than that of EFF programs. National strategic plans form the background for actions selected for financing under EFF. They are a reference document in drawing up EFF programmes in each Member State and the actions included for EFF financing will have to follow the objectives and strategy previously defined by the Member State in its NSP.

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Who is responsible for managing the EFF programs?

EFF programs are managed according to the principle of shared management. Consequently both the Commission and Member State shall be responsible for managing of EFF programs. The tasks of the Commission and the Member States are clearly divided. The Member States will set up the different bodies and the management and control system required to run the EFF programs. The Commission role will be to check the proper functioning of these systems.

The audit authorities of the Commission, European Court of Auditors and Member States control regularly the efficient and quality use of EFF assistance.

What is the global financial allocation for the EFF and how is it determined?

According to the new Financial framework for 2007-2013 approved by the European Council in December 2005, the total EFF budget amounts to € 3 849 million (2004 prices) of which € 2 908 million for the Convergence areas and € 941 million for the non Convergence areas.

Taking into accounting that 0.8% should be reserved to the technical assistance to be managed by the Commission, the remaining total EFF budget allocated to MS in 2004 prices is € 3 818 million (€ 2 885 million for Convergence regions and € 933 million for non Convergence regions).

Market Policy

Promoting market stability and fair income

The **common organisation of the markets³ (COM)** in fishery and aquaculture products was the first element of the common fisheries policy to be put in place by the Council of Ministers in 1970. Its original aims were to provide market stability and guarantee a fair income for fish producers. The current market organisation originates from the early COM, although it no longer bears but a distant resemblance to it.

Originally drawn up for a European Economic Community of just six countries, the market organisation measures now cover an area that extends from the Baltic to Andalusia and from Cyprus to Scotland and in which there are significant disparities in distribution chains, consumer habits and prices. In addition, fisheries resources have become increasingly scarce and the COM has had to react accordingly by introducing measures to avoid waste and ensure an optimal match between supply and demand. Since 1970, every revision of the COM has been made with these objectives in mind. **Producers' organisations (POs)** are the favoured medium through which the changes have been applied. On each occasion the rules were amended, their role was strengthened and they were provided with a variety of tools to stabilise and regulate the market.

Price stability, an appropriate balance between supply and demand and preference for EU production without damaging the growing demands of the processing industry have been the key goals of the COM over the past few decades.

The market organisation contributes towards the CFP's general objective of seeking to guarantee sustainable fisheries and secure the future of the fisheries sector.

The products covered by the market organisation are "fishery products", which embraces catches taken at sea and in inland waters and aquaculture products. These include live, fresh or chilled, frozen, dried, salted and smoked fish and fish in brine together with crustaceans, molluscs, meal, powders, etc.

The market organisation has five parts:

- common marketing standards;
- consumer information;
- producer organisations;
- a price support system based on intervention;
- arrangements for trade with third countries.

Strategy for further development of European Aquaculture

Although aquaculture activities are included within the Common Fisheries Policy, as the sector grew in importance in the latter part of the 20th century, the professional sector became increasingly aware that it was operating in a policy vacuum. During the reform of the CFP, resulting from the consultation on the Green Paper⁴, it was agreed that a strategy for European aquaculture was needed.

In 2002, the European Commission prepared and published a strategy for the development of the aquaculture sector⁵ which was based on three objectives:

1. Creating secure employment particularly in fisheries dependent areas: the target is the creation of 8,000 to 10,000 full-time job equivalents over the period 2003-2008.
2. Providing safe and good quality fisheries products and promoting animal health and welfare standards.
3. Ensuring an environmentally sound industry.

To meet these objectives, the Commission proposed the following measures:

- Secure employment: increasing production, applying integrated coastal zone management, stimulating the market and improving governance
- Improve the safety of aquaculture products and animal welfare: ensuring a high level of public and animal health as well as animal welfare
- Ensure an environmentally sound aquaculture: reducing the impact of waste, tackling the problem of alien species and genetically modified organisms, preventing pollution and conducting environmental impact assessments

In 2007, the Commission is to undergo a review of this Strategy so as to measure its impact and to address new challenges facing the different components of the European aquaculture sector.

Cross-Linking Policies and Legislation that affect European Aquaculture

While the Common Fisheries Policy provides the initial guiding principles for European Aquaculture, there are many additional cross-linking policies and legislation that concern the sector.

The Aquaculture unit of the Directorate-General for Fisheries compiled a directory⁶ of the EU legislation concerning aquaculture, processing and marketing in order to improve the supply of information, and thus meet the demand of national and international authorities, members of the trade, research bodies, and other interested parties (*This is currently being updated and should be published in the first quarter of 2007*)

As this legislation concerns three major areas of the Common Fisheries Policy the directory is composed of ten different chapters:

- food additives,
- animal diseases,
- environment,
- labelling and packaging,
- market,
- research,
- sanitary and hygiene measures,
- structures,
- third countries-sanitary, and others.

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Each chapter contains several documents. For the most important ones, the directory provides a summary of their objectives and contents. The main amendments are shown at a lower level in the website structure.

The complete text is also available and all information is in the 11 official EU languages.

Research Objectives responding to European Policy

European Research is organised within Framework programmes that are designed to integrate both short, medium and long term needs of the European Union. The Framework Programmes have evolved with time, adapting to change and responding to policy needs and objectives.

PROFET POLICY has, as one of its key objectives, the purpose of demonstrating how these Framework Programmes have assisted the development of fisheries and aquaculture and to communicate the results of selected projects to the stakeholders of these sectors.

How the Research Framework Programmes are decided

Before implementation by the Commission, the content and structure of Research Framework Programmes are discussed within different forums and at different levels. Their motivations, objectives, budget and means of implementation are introduced into Community legislation as:

- Decisions of the European Parliament and of the Council for the Framework Programme as a whole,
- and by Decisions of the Council for definitions of the specific actions included within the Framework Programmes.

For the recent Framework Programmes, the Decisions relative their realisation are the following:

4th Framework Programme

- Decision 1110/94/EC of the European Parliament and of the Council of 26/4/1994 concerning the 4th Framework Programme of the European Community activities in the field of research and technological development and demonstration (1994-1998);
- Council Decision of 23 November 1994 adopting specific programme of research, technological development and demonstration in the field of agriculture and fisheries;
- Council Decision of 23 November 1994 adopting specific programme of research, technological development, including demonstration, in the field of marine science and technology.

5th Framework Programme

- Decision 182/1999/EC of the European Parliament and of the Council of 26/12/1998 concerning the 5th Framework Programme of the European Community for research, technological development and demonstration activities (1998-2002);
- Council Decision of 25 January adopting a specific programme for research, technological development and demonstration on quality of life and management of living resources (1998-2002).

6th Framework Programme

- Decision No 1513/2002/EC of the European Parliament and of the Council of 27 June 2002 concerning the sixth framework programme of the European Community for research, technological development and demonstration activities, contributing to the creation of the European Research Area and to innovation (2002 to 2006)

7th Framework Programme

- Decision No 1982/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013)

The increasing complexity of identifying RTD objectives, needs and the means of accomplishing successful RTD has become more evident and the processes of achieving these are clearly identified⁷.

General Objectives of the 4th Framework Programme⁸ (1994-1998)

According to the official communication from the Council, the general objectives of this programme are to increase competitiveness, efficiency and sustainability of the agricultural, fishery and related industry sectors, and to promote rural development. Research should help to remove bottlenecks which are hindering the wider use of agricultural, forestry, and fishery raw materials for new and improved food and non-food products, and to stimulate the emergence of new products, outlets and processes. Therefore, the research must respond to socio-economic issues of rural and coastal communities to safety, quality and health and environmental applications of new food and non-food products for which it is clear that there is a demand from the public.

RTD priorities:

For aquaculture and fisheries, five areas were targeted incorporating the specific objectives of FP4:

- Impact of environmental factors: objective to generate a better understanding of the influence of environmental factor and parameters.
- Ecological impact of fisheries and aquaculture: research should provide a better understanding of the effects that fisheries and aquaculture have on the ecosystem, with an aim of limiting their impacts.
- Biology of species for optimisation of aquaculture: objective to contribute to a better understanding of the biology of aquatic species with a view of developing a economically profitable industry.
- Socio-economic aspects of the fishing industry: objective to generate a better knowledge and understanding of the operations and management of the sector
- Improved methodology: objective to improve existing methodologies for fish stock assessment (e.g. novel methods of data collection and analysis), and development of new instruments and techniques for fisheries and aquaculture research.

The total budget for FAIR was 607 M ECU, while the specific allocation to fisheries and aquaculture was 103 M ECU.

General Objectives of the 5th Framework Programme⁹ (1998-2002)

The strategic objective of this programme was to link the ability to discover to the ability to produce – so as to assess the needs of society and to meet the requirements of the consumers, leading to future wealth and job creation and improvement of the state of the environment. The programme was aimed at answering some of the pressing questions asked by the citizen, which required to be tackled at the European scale.

The proposed technical and technological solutions should be seen as part of an integrated system approach in which human beings are at the core of the issue of quality of life and of the management of living resources. The six key actions were targeted at socio-economic needs and at the Community's policy objectives, including agriculture and fisheries.

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The gender dimension was to be considered where appropriate.

Sustainable agriculture, fisheries and forestry, and integrated development in rural areas including mountain areas were included in the Quality of Life (QoL) key action 5

The aim of this action is to develop knowledge and technologies for the production and exploitation of living resources, covering the whole production chain, taking into account the highly competitive international context and in the light of the need for adaptation to the evolution of the common agricultural and fisheries policies, while also providing the scientific basis for Community regulations and standards.

RTD priorities:

Fisheries and aquaculture related research priorities were new and sustainable systems of production, including breeding methods, and exploitation in agriculture, fisheries and aquaculture, taking into account profitability, the sustainable management of resources, product quality and employment, as well as animal health and welfare. The RTD priorities were:

- For fisheries: support to integrated fishery management linking resource conservation, means of capture, interactions with ecosystems, market requirements and socio-economic considerations; identification and characterisation of the quality of marine products and technologies; development of new concepts for the sustainable use of marine and aquatic living resources.
- For aquaculture: sustainable production systems with the reduction of the impact on ecosystems and diversification of cultivated species (both plant and animals); improvement of production techniques, genetic improvement; disease resistance and control.

Other QoL priority areas that concerned both sectors were:

- Development of methods of control, surveillance, and protection: the aim of this action was to support sound implementation of the CFP. The RTD priorities related to reliable, transparent, and cost-effective methods of monitoring, assessment, and control.
- Pre-legislative research designed to provide a scientific basis for Community legislation: the aim was to provide support for Community regulations by pre-normative research activities in the context of the CFP.

The total indicative budget for QoL was 2.413 M EUR, including 520 M EUR for the key action 5 (sustainable agriculture and fisheries and forestry...).

The two other key actions of the QoL programme that could potentially focus on issues related to fisheries and aquaculture were QoL1 (food, nutrition and health) and QoL2 (control of infectious diseases), although to a lesser extent.

The primary objective of QoL1 was to improve knowledge and technologies to produce safe, healthy and balanced food supply to consumers. The specific objectives included the development of safe and flexible manufacturing processes and technologies, the development of tests to eliminate infectious agents throughout the food chain, and research into the role of food in promoting and sustaining health.

This key action was fairly generic as it covered all kind of food items. It was of primary interest for DG SANCO (DG Health and Consumer Protection) whose mission is to ensure a high level of protection of consumers' health, safety and economic interests as well as of public health at the level of the European Union. Within the general umbrella of the fisheries and aquaculture industries, it had several possible applications mostly for the seafood processing industry.

Horizontal objectives

One of the major horizontal general objectives of the research programmes is to promote European Research. Decision 182/1999/EC mentions that the research programme should contribute to the role of the Community in the world as a focal point of scientific and technological excellence. From an organisational perspective, the horizontal objective of promoting cooperation and coordination between Member States is clearly listed. Such objectives were also explicitly or implicitly part of the 4th Framework Programmes. The specific objectives are to promote cooperation and exchange of information between research bodies of the Member States, including training and mobility of scientific staff. A greater participation of SMEs¹⁰ was also included as an objective to the 5th Framework Programme as a means to better integrate their needs, and to increase their ability to benefit from the Community programmes. Greater dissemination and transfer of results towards the SMEs was also privileged.

General Objectives of the 6th Framework Programme¹¹ (2002-2006)

The 6th Framework Programme (FP6) marked a different approach to the 4th and 5th Programmes; the following section provides a brief summary of this and its relevance to research on fisheries and aquaculture.

‘Research and Technological Development (RTD) is an essential element in the functioning of industrialised countries, such as the EU Member States and the countries having applied for EU membership. The competitiveness of companies and the employment they can provide depend to a great extent on RTD; and RTD is also essential for the support of other policies such as consumer protection or the protection of the environment. In short: the individual and collective wellbeing of citizens depends on the quality and relevance of RTD.’

This statement indicates clearly the need to associate RTD to raising competitiveness within industry while supporting the actions required in order to improve the quality of life of the European citizen, through consumer protection and environmental improvement.

Recognising the need for improved cooperation and coordination in European research, the European Research Area (ERA)¹² was created so as to integrate the elements that were seen as being too fragmented. FP6 was the main financial and legal instrument of the European Commission to implement the ERA, alongside national efforts and other European co-operative research activities. FP6 supported collaboration in research, promoted mobility and co-ordination and investing in the mobilisation of research in support of other EU policies.

At the same time research will be targeted at strengthening the competitiveness of the European economy, solving major societal questions and supporting the formulation and implementation of other EU policies. Activities under FP6 had to be conducted in compliance with ethical principles, including those reflected in the Charter of Fundamental Rights of the European Union. Furthermore these actions should strive both to increase the role of women in research and to improve information for, and dialogue with, society.

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Three activity 'blocks' were identified, being:

1. Focusing and integrating European Research, including

7 thematic research areas

1. Life sciences, Genomics and Biotechnology for Health
2. Information Society Technologies
3. Nano-technologies and nano-sciences, knowledge-based multifunctional materials, new production processes and devices
4. Aeronautics and Space
5. Food Quality and Safety
6. Sustainable Development, Global Change and Ecosystems
7. Citizens and Governance in a knowledge-based society

Specific activities covering a wider field of research, reflecting

- i. RTD supporting European policies
- ii. New and emerging science and technologies (NEST)
- iii. Specific research activities for SMEs
- iv. Specific measures in support of international cooperation

2. Structuring the European Research Area

3. Strengthening the foundations of the European Research Area

Major actions have been achieved for fisheries and aquaculture research within the areas of 'Food Quality and Safety', 'Sustainable Development' and in 'RTD supporting European Policies' and 'Specific Research Activities for SMEs'.

Perhaps the major change in the approach to research for the aquaculture production sector was the increased attention given to SME measures, primarily through the CRAFT and Collective Research programmes¹³, where specific targeted issues and topics could be addressed.

This aspect was further developed by the introduction of Technology Platforms¹⁴, whose creation was stimulated by the recognition that "the European area of knowledge should enable undertakings to build new competitive factors, consumers to benefit from new goods and services and workers to acquire new skills. With that in mind, it is important to develop research, education and all forms of innovation insofar as they make it possible to turn knowledge into added value and create more and better jobs".

In drawing attention to the necessity of pursuing an active industrial policy, the Spring European Council 2005 recognised the role of "technology initiatives based on public-private partnerships" and "the organisation of European Technology Platforms aimed at setting long-term research agendas" in "strengthening the competitive advantages of the industrial base while ensuring the complementarity of action at national, trans-national and European level".

This integration of industry-led actions for the identification of specific RTD needs and the facilitation of public-private partnerships to achieve research and to transfer the results into the industrial sector provided a new direction for many sectors, increasing their involvement in developing agendas and programmes. Although fisheries and aquaculture have yet to develop specific TPs, this approach provides a strategic option for these sectors.

General Objectives of the 7th Framework Programme¹⁵ (2007-2013)

The 7th Framework Programme is a broader programme than its predecessors and will last longer, until 2013. It is based on the desire that the European Union will become the "most dynamic competitive knowledge-based economy in the world". The 'knowledge triangle' - research, education and innovation - is a core factor in European efforts to meet the ambitious goals outlined in the Lisbon Strategy.

The Seventh Framework Programme (FP7) bundles all research-related EU initiatives together under a common roof, playing a crucial role in reaching the goals of growth, competitiveness and employment; along with a new Competitiveness and Innovation Framework Programme (CIP)¹⁷, Education and Training programmes, and Structural and Cohesion Funds for regional convergence and competitiveness. It is also a key pillar for the European Research Area (ERA).

The broad objectives of FP7 have been grouped into four categories: Cooperation, Ideas, People and Capacities. For each type of objective, there is a specific programme corresponding to the main areas of EU research policy. All specific programmes work together to promote and encourage the creation of European poles of (scientific) excellence.

The following diagram indicates the different categories and divisions of FP7.

COOPERATION	Health	IDEAS	European Research Council
	Food, agriculture and biotechnology	PEOPLE	Initial training
	Information and communication technologies		Life-long training
	Nanosciences, nanotechnologies, materials and new production technologies		Industry-academia
	Energy		International dimension
	Environment (including climate change)	CAPACITIES	Specific actions
	Transport (including aeronautics)		Research infrastructures
	Socio-economic sciences and the humanities		Research for the benefit of SMEs
	Security		Regions of Knowledge
	Space		Research potential
			Science in society
			Coherent development of research policies
		International co-operation	
	Non-nuclear actions by the Joint Research Centre		

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Within the 6th Framework programme, research on fisheries and aquaculture will need to find its place within the different divisions of action, where it would appear initially that 'Food, Agriculture and Biotechnology', 'Environment' and 'Research for the benefit of SMEs' would be the 3 areas of initial interest.

The Common Fisheries Policy and Research Needs

Since fisheries, aquaculture and seafood processing are integrated within the Common Fisheries Policy, it is increasingly evident that this Policy has a direct effect on research direction.

The period 1994-2002 coincided with the revision of the Common Fisheries Policy, as defined in Council Regulation No 3760/92 that established a Community system for fisheries and aquaculture. The main objectives of the CFP (art. 2) were to protect and conserve available and accessible living marine aquatic resources, and to provide for rational and responsible exploitation on a sustainable basis, in appropriate economic and social conditions for the sector, taking account of its implications for the marine eco-system, and in particular taking account of the needs of both producers and consumers.

Many natural fish stocks exploited by the European fishing fleets were in a poor condition and the main challenge over this period was to adapt the fishing fleet capacity to the resources available. The main tools in this respect were the Multi Annual Guidance Programmes that set reduction objectives to the fishing fleet, and the availability of structural funds for diversification and adjustment of activities in the coastal areas.

The development of the aquaculture sector was broadly supported, albeit without setting specific objectives, as a means to supply the Community market without increasing fishing pressure on the stocks, and as a likely source of alternative employment in the coastal areas. Fish processing was also supported as a mean of generating added value and employment to the coastal areas dependent on fishing.

The period coincided also with the formulation and approval (1995) of the Code of Conduct of Responsible Fishing under the aegis of the FAO. The Code of Conduct promotes the sustainable use of marine resources in harmony with the environment, and calls upon best scientific advice available as the basis upon which decisions should be taken. Article 9 covers broad issues affecting aquaculture production.

As a result, DG Fisheries published a note prior to the implementation of the 5th Framework Programme detailing its perceived priorities. These were:

- Making more reliable or efficient the technologies on the basis of which scientists formulate their opinion and advice;
- Making the most out of limited fisheries resources by aiming at greater added value for catches and the development of alternative employment possibilities through an improvement of the quality of seafood products, including from farmed species;
- Supporting the development of European aquaculture as a complementary activity to fisheries, stimulating economic development in marginal areas where there are few opportunities for employment and thus contributing to Community cohesion through improved knowledge on the biology of species of interest for aquaculture, mitigating the disease problems, improving their genetic basis and avoiding negative effects on the environment.

In addition to these priorities, additional actions included:

- The improvement of the efficiency of the implementation of the CFP, in particular by reinforcing the link between the structural adaptation of fishing fleets to the conservation of fisheries resources and the management of the fishing fleets, thus contributing to a balance between fleet capacity and fishing efforts.
- The integration of annual decision making with regard to resource conservation in a multi-annual framework;
- The integration of the objectives of mitigating the impacts of fishing and aquaculture activities on marine ecosystems into those of the CFP.

In the long run, expectations were placed on research that would facilitate the evolution of the CFP, in particular by identifying and comparing alternative management strategies within the European context and according to specific situations. Such research should also clarify, for decision makers, how their future choices and decisions with regard to these management strategies would affect the various objectives assigned by the Treaties to the CFP.

Conclusions

The research needs of fisheries and aquaculture have developed as a function of policy directions and sector-related events while the European Framework Programmes have become broader, encompassing wider strategic desires for the European Union and its citizens.

Keywords that strike any review of these developments are the following:

1. Competitiveness – directed towards the European economic players, to be competitive within a free market situation
2. Sustainability – including a better understanding of the interactions of fisheries and aquaculture with the environment and its resources and the assessment of likely impacts over a long-term period; at the enterprise level, sustainability includes the ability to operate on a long-term basis, in the absence of public support.
3. Scientific Excellence – where the Framework Programmes demand the best of science in the research made. The scientific community is expected to reach scientific excellence for the benefits of all users of the research, including the SMEs, policy makers and Civil Society.
4. Co-operation – much greater consideration is being given to the opinions and needs of both the industry and civil society, resulting in projects involving participants drawn from the research community, industry and civil society.
5. Knowledge - a knowledge-based economy needs research and also the tools to transfer the results of this research into operations and skills, where the Competitiveness and Innovation framework programme will have an important role.

The Competitiveness and Innovation framework programme (CIP)¹⁷ is an integral and important component of FP7 and responds to the relaunch of the Lisbon Strategy. Also running from 2007 to 2013, it has a budget of approximately EUR 3.6 billion. It represents a 60 % increase in annual spending on actions related to competitiveness and innovation by 2013 compared to 2006.

European Policies and Aquaculture

The three specific programmes in the CIP framework are:

- Entrepreneurship and Innovation Programme
- ICT Policy Support Programme
- Intelligent Energy-Europe Programme

Eco-innovation will be a transversal theme of the whole programme¹⁸. The CIP will complement other major programmes of the Commission covering cohesion activities, research, technological development and demonstration activities and lifelong learning.

In the absence of specific work programmes for fisheries and aquaculture, both the sectoral and research players will have to widen their approach to issues affecting their professional work and appreciate fully the expectations of the policies and programmes defined, imposing improved dialogue and commitment from all parties concerned.

Footnotes

1. This section has been abridged from a variety of Commission publications, principally those concerning the Common Fisheries Policy (http://ec.europa.eu/fisheries/cfp_en.htm)
2. This section has been abridged from a variety of Commission publications, principally those concerning the Common Fisheries Policy (http://ec.europa.eu/fisheries/cfp_en.htm)
3. Council Regulation (EC) No 104/2000 of 17 December 1999 on the common organisation of the markets in fishery and aquaculture products.
4. Green Paper on the Future of the Common Fisheries Policy COM (2001) 135 final
5. A Strategy for the Sustainable Development of European Aquaculture COM (2002) 511 final
6. http://ec.europa.eu/fisheries/legislation/other/aqua_en.htm
7. http://ec.europa.eu/research/future/documents_en.cfm
8. abridged from IMPACT FISH [FP6-2003-SSP3-513651] - Impact assessment of the FP4 and FP5 Research Programme on Fisheries, Aquaculture and Seafood Processing Research Area and the Fisheries Industry.
9. abridged from IMPACT FISH
10. SME = Small and Medium Size Enterprise
11. <http://sme.cordis.lu/research/home.cfm>
12. <http://cordis.europa.eu/era/>
13. <http://sme.cordis.lu/craft/home.cfm>
14. http://cordis.europa.eu/technology-platforms/home_en.html
15. http://cordis.europa.eu/fp7/home_en.html
16. Decision No 1639/2006/EC of the European Parliament and of the Council of 24 October 2006 establishing a Competitiveness and Innovation Framework Programme (2007 to 2013)
17. http://ec.europa.eu/enterprise/enterprise_policy/cip/index_en.htm