

The agricultural economist and research in the fisheries sector

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Abstract

An historical review of economic research in the Italian fisheries sector is reported, starting from an analysis of the study of markets and production industries as well as sustainable development and economic efficiency in the fishery sector. The role of agricultural economists in research on fisheries and aquaculture is underlined and the importance of the periodic comparison of experiences between the academic world and workers in the fishery sector, particularly at international level, is emphasized.

1. Introduction and background

As professor in economics and agricultural policies at the Faculty of Economics of the University “Ca’ Foscari” of Venice, for several years I have been involved in studies on the economics of fisheries and aquaculture and I have coordinated some research projects financed by the Ministry of Agriculture and Forestry Policies, Directorate General for Fisheries and Aquaculture.

It has certainly been the case in the past that the economics of the fisheries sector have not been widely studied by agricultural economists; there is no shortage of colleagues who have shown an interest in aquaculture and fisheries, but research on the economic aspects of the sector and market analyses have proved to be somewhat limited.

This is in part due to non-uniformity in the sources of fishery statistics in addition to the scarcity of elementary data and specific studies of the sector. IREPA, ICRAM, ISMEA, FAO, producers’ associations and a few other research institutes at national level provide the only sources to which we can refer.

In occasion of a conference held in Rome in December 1998 (“Le ricerche sulla pesca e sull’acquacoltura nell’ambito della L. 41/82”), stock was taken of the situation regarding research on fisheries and aquaculture; it was highlighted that in fact for a long period of time research in the fisheries sector has been scarce, casual and rarely coordinated. The idea that agricultural economists could be able to study economic processes related to the fisheries sector came to Professor Mario Prestamburgo, currently the President of the Italian Society of Agricultural Economics, one time State undersecretary to the Ministry of Agriculture. I began this work and later involved many colleagues from several other Italian Universities. Thus from the nine research projects on the economics and sociology of fisheries admitted to the financing scheme of the third three-year programme, currently 20 projects have been put forward, involving 40 operative units with the contribution of an ever-increasing number of economists.

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Discussion of the implications of the fishery sector, and in particular aquaculture, for the economy of Italy has begun in recent years, therefore studies of the sector are clearly relevant. Through the Projects sponsored, an attempt has been made to create a theoretical and analytical picture, typical to economic studies, in order to understand the workings of the fisheries-aquaculture system and the structure and organisation of the markets it embraces. Theoretical and methodological studies by teachers and researchers from the academic world have been supported by the contribution of sector workers thus comparing and consolidating results.

This study path has been possible through the involvement of fishery associations invited to participate in the work of conferences periodically organised to present research results.

2. Economics and Policies of fisheries and aquaculture

Research on the “economics” of fisheries and aquaculture, in its many aspects, uses analytical tools and methods that have much in common with agricultural economics, agricultural policies and the economics of the agriculture/food industry systems and territorial economics. It is without doubt that fisheries and aquaculture are part of the agricultural–food industry economics, just as the importance of the fishery sector is beginning to emerge in the rural development of many areas, both those which depend on fisheries and those which do not. Until 1983, The European Commission (EC) agricultural policies included fisheries, given that the Treaty of Rome states *“that the products of fisheries and of the first stages of transformation (directly connected with the products of fisheries) should be considered agricultural products”*. Subsequently, the awareness of several emerging problems that distinguish the fisheries sector, such as the impoverishment of fishery stocks and the consequent necessity to revise and reorganise the sector in general terms, above all through the promotion of fish farming activities, as is well known, brought us to separate EC policies which are currently under further revision. In spite of this, some common problems emerge. As in EC agricultural politics, it is becoming increasingly urgent to adopt different measures and policies between the countries of the North of the European Union and those of the Mediterranean area, therefore in the common fishery policy, it is necessary that the characteristics of the Mediterranean area emerge strongly in order to distinguish them in terms of COM, structure policies, conservation and management of resources, relations with countries other than those of the North Europe area. The differences and environmental complexity of fisheries in the seas of Europe are significant; even concepts such as coastal fisheries within three miles or small scale fisheries take on substantially different meanings from the Adriatic to the Atlantic or the seas of the North, and it would seem that the Green Book on fisheries does not take these aspects sufficiently into consideration, even in the presence of adequate scientific data.

In the recent orientation law of 2001 and specifically with the legislative decree 226 of 2001, Italian legislation put the fisheries entrepreneur on equal terms with the agricultural businessman.

Fisheries, like agriculture, is productive activity, however it may be much more than this if we consider that the fishers are “delegated” to take collective resources, and need continuing regulation in the fisheries sector in order to manage these resources properly.

From 1850 to 1950, until the Gordon model on bio-economic equilibrium was proposed, the most significant contributions to the solution of fisheries problems came from the world of forestry and from modelling and theoretical processing, from the joint work of biologists and schools of economics and from quantitative modelling (Cataudella, Venice, 1999).

From this moment the role of agricultural economists in research on fisheries and aquaculture became more important and this importance is destined to increase, so much so that in the recent revision of legislation governing the scientific sector, this necessity was fully recognised; the declaratory for the scientific sector AGR 01 states that *“the sector brings together research topics concerning economic, political, management and assessment aspects of production, transformation, distribution market and consumption of the products of the primary sector: agriculture, forestry and fisheries and agricultural bio-technology, with their relation to the other components of the socio-economic system and the economic aspects of the evaluation of environmental impact”*.

Aquatic production is placed in an extremely complex “fisheries system” in which the various ecological, economic and social dimensions need to be considered when producing rules on which the action of the Administrations is based. As with agricultural economics, fisheries economics is also closely correlated with other subjects for the study of markets and production industries; the same is true for fisheries policies, which increasingly affect rural development, the search for greater territorial integration “touches” fields typically related to other topics and with which it can’t avoid cooperating. This is the method followed in the organisation and establishment of the research units that are part of the projects on the economics of fisheries and aquaculture, which it is my pleasure to coordinate.

Since the agricultural economist, when studying complex issues such as those related to the fishery sector, needs to interweave relationships of knowledge and cooperation with researchers in other fields, it becomes essential to create multidisciplinary units in which for theoretical studies the agricultural economist receives support and reassurance from statistical quantitative models, mathematical analyses and econometric processing. Where multifunctionality is concerned (which is applicable to the fishery sector in the same way as it characterises agriculture), there is collaboration with researchers in the fields of sociology, tourism economics, territorial planning, biology and environmental economics as well as with nutritionists. The results of these complex analyses can provide support for public Administration in the identification of the fundamental principles of the sector. In addition it can propose the related planning tools, which should allow fisheries to progress from its condition on the fringes of the agricultural/food industry and environmental policies, where it was until recently, to the milieu of the global market, of sustainability and greater participation of Society in the choices concerning the sector.

3. Market

Initially, an attempt was made to study in greater depth the most relevant aspects concerning the level and type of demand which it is necessary to satisfy for fisheries products, with an awareness of the importance of the recent consumer dynamics in directing the development of the entire system of fisheries and aquaculture. However, another aim was to gather current

critical development factors against which the fisheries and aquaculture sector will necessarily be measured. It is well known that, with the relatively unchanged growth rate in food consumption, demand for fishery products is continually rising. Consumer awareness of an ever more varied supply and high quality of service, together with an image of healthy and nutritionally valid food are all factors which contribute to an increase in consumption of fishery products.

The study of several topics dealt with by the research group aimed in the first place to define and qualify the determining factors relative to demand for fishery products, by means of theories and statistical methods that are chiefly translated into the quantification of the effects of alterations in income and the consequent changes in prices. The definition of the technical and analytical environment, useful for an understanding of the working of the fisheries-aquaculture system and the markets of which it is composed, aims to offer some practical indications on the policies to draw up to manage and organise the most appropriate structures for the development of the fisheries sector, bearing in mind the increasingly urgent income requirements of the fishers and fish farmers.

However, in the study of fishery products, it has proved indispensable to widen the analysis beyond economic and quantitative aspects relative to consumption, to the more complex topics that progressively characterise the contemporary economic/agricultural scientific debate. The central topic of the first conference (“Il consumo del prodotto ittico. Aspetti Economici e statistici”), held in Venice in September 1998, was the consumption of the fishery product.

Analysis therefore turned to the market for fish products, in the widest possible context of the food market and to the specification, both theoretical and empirical, of the demand for fishery products with particular attention paid to local perspectives.

Specific explorative investigations on the consumption of fish in defined territorial contexts and studies which aim to define our demand for fish products from foreign markets, complete research which primarily addresses a thorough examination of further topics related to the fishery sector, such as its interrelation with the local development of tourism, the role of financial incentives in promoting the innovative processes which distinguish this sector, the issues related to quality and food safety of fish products. In 1999 the Venice Conference took as its central topic “The fishery product; consumption, quality and marketing”, positive research results were presented.

4. Economic and environmental sustainability

The third conference brought forward research results on “Sustainable development and economic efficiency in the fishery sector”. From an analysis of the economic aspects, of quantitative data related to consumption and of the critical elements of the fish market, in the wider context of the agriculture/food industry in which problems related to quality and marketing stand out, the study of the more complex issues concerning supply has followed. This is in addition to the relative policies of the sector, scientific debate on this aspect is characterised by an approach privileging the principles of sustainable development, the key element on which other possible scientific contributions hinge.

Particular attention is therefore paid to an in-depth examination of the concept of sustainable development, which has been built up over time following several conceptual approaches. The idea of using suitably adapted bio-economic models to support the analysis of the economic-environmental dynamics of fisheries and the impact of the policies applied to the sector, takes it for granted that innovative information systems must be used to make data and information available which are currently scarce. In addition fishery sector workers still have a weak and indefinite perception of the problem of sustainability.

In this context, the use of analytical tools which are able to assess productive activity in terms both of income and of protection of natural resources would take on particular significance; among these it is opportune to nominate the environmental accountability approach as well as the multi-criteria assessment models to support the development of the fishery sector in the context of improved sustainability. In this framework, the analyses allow the effects on the environment to be measured directly using real data.

From the perspective of economic analysis, the consideration that the sustainability of the fishery sector is tied to the management of fishing capacity leads one to reflect that the balance of maximum profit does not coincide with the maximum sustainable yield, therefore if profits attract new businesses into fisheries, we will arrive at a situation in which these profits disappear. If appears logical to reduce fishing effort, giving a strategic role to quality allows us to unite the fishers' objectives in terms of income with those concerning the environment by increasing the value of the product. Awarding a value to the fishery resource, which is compatible with a balanced solution, allows the harmonisation of environment requirements with economic issues.

In the context of biodiversity, the study of the interaction between the various components of the system takes on particular significance. The ability to comprehend the cause-effect relation between the development of the various species allows for a definition of the management policies which could enhance the value of the sector's many functions and activities.

The issues relative to economic efficiency are particularly relevant, they represent the conditions for any development policy and lead to the assessment of the economic impact of the fishery sector at national level, as well as the examination of economic results for specific segments of aquaculture. The fact that the economic stability of many businesses is precarious means that it is necessary to investigate the specific, critical factors which condition the evolution of whole sectors of fisheries.

Thus the necessity emerges to implement an appropriate system of incentives (which can also be financial), and to give due importance to the strategic relevance of the sector's policies, which should cover all interactions with the local socio-economic circumstances in addition to marketing, management and environmental issues.

Given this perspective, the complexity of the fishery system highlights an increasing scientific interest in the subject for the relevance of the coastal environment with Italy's geographical characteristics and fishery resources, for the variety of processes, products and services involved, its economic dimensions which, as for the environmental considerations, see the sustainable use of aquatic resources as the most pressing issue, thus suggesting a wide range of topics for study and collaboration with research institutes at international level.

The opportunity to enter into greater depth where studies on the fishery sector are concerned and broaden the relative research topics, while demonstrating the increasing cognitive necessities which are still to be fully satisfied, reveals the importance of the periodic comparison of experiences between the academic world and workers in the fishery sector, which should occur at international level.

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