

# Some Personal Experiences and Comments on the Management of Italian Marine Fisheries

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## Abstract

The recent transition, in Italy, to an improved sampling scheme for fisheries catch and effort data, is described, with emphasis on the interactions between civil servants and fisheries scientists, and on specific features of Italian fishery resources and research that may be common with those of some developing countries.

Why should Italy and Sicily be of interest to the readers of Fishbyte? The answer is simple: for the same reasons that the ICLARM/KISR International Conference on Length-Based Methods was invited to meet in Mazara del Vallo a few years ago (Pauly and Morgan 1987). Sicilian fisheries (perhaps, more generally, most Italian and Mediterranean fisheries with the exception of that in the Adriatic Sea) have features of both typical tropical fisheries (e.g., large number of species, of fishermen and landing sites, lack of historical data series and difficulties in biostatistical data collection and interpretation), and of the industrial fisheries of so-called developed countries (overcapitalized fleets, numerous marine biologists, but lack of sufficient fisheries biologists) without enjoying many of their advantages (long tradition in population dynamics studies, good historical series of statistical data, reliable national statistical systems, sophisticated fisheries laboratories, etc.).

Gulland (1988) suggested that fisheries scientists in developed countries are frustrated because they do not have fisheries administrators "breathing down their necks" for advice (but don't ICES scientists get frantic before ICES and EEC-DG XIV V-STCF meetings? What about the harassment from fisheries commissions?). Altogether, I think these differences are real: Italy is "in between".

Now, what I'm trying to do in Italy (and in Sicily, where perhaps the situation is easier because of regional jealousy for power in fisheries policy and for a stronger "Mediterranean" image) is to profit from the positive aspects of the extremes.

Since I returned from Lowestoft in 1970 I have tried hard to implement a national system for the collection of catch and corresponding effort data,

based on a rigorous sampling design (Levi 1979). Between 1983, 1984 and 1986, a huge nationwide programme was undertaken with some technical assistance from FAO (we are not a "developing country" but FAO is, after all, in Rome) to study the feasibility of such a system. The program was called PESTAT (PESca = fisheries, STAT = STATistics), costing about half a billion Italian lire (i.e., about US\$360,000), and involving research cooperatives and recorders paid by the Ministry of Merchant Marine, which, in Italy, deals with marine fisheries.

The main results, contained in three thick final reports (Mortera and Levi 1981; Bazigos et al. 1984; Cingolani et al. 1986) were: 1) that a cost-effective sampling system is feasible, and 2) first estimates (with confidence limits) of the magnitudes of inputs and outputs in the Italian fishing sectors. A by-product of this effort was the implementation of a new national system of statistics for fishing fleets by ISTAT (the Italian body officially responsible for all national statistics), which was more compatible with the "EUROSTAT" system of the Commission of European Communities. We are now working hard to "institutionalize" this new system. An *ad hoc* working group was then set up in the frame of the national law on fisheries and things are now slowly, but smoothly, progressing towards the implementation of a national sampling system. We are presently transferring the know-how from CNR (National Research Council) to ISTAT, but the main obstacle is to convince the Ministry of Merchant Marine to make use of its recorders, i.e., granting them means, freedom of movement and incentives to work efficiently.

In addition, when two different bodies of the public administration have to cooperate, difficulties arise - not only in Italy, of course: "tutto il mondo e un paese", all the world is a village.

I do not think the time needed for implementing the new sampling system will be excessively long, but obviously: a) emphasis will have to be put on training and control of recorders; b) the present, unreliable "census" system will only be abandoned if and when the new system runs well.

As mentioned above, provision for the *ad hoc* ISTAT working group on fisheries statistics were included in Law 41, the new "law on fisheries planning" that was approved by the Italian parliament on 17 February 1982 (Anon. 1982). (Quite incredibly, Law No. 41 dated 17 February 1982 was so good that it was unanimously approved by the Italian parliament!) The core of this law is the establishment of a feedback loop between resources evaluation research and the three-year management plans for the same resources.

The main management tool is the issuance of fishing licenses, defined as "fishing permits" for a given boat and gear(s), aiming at given resource(s) in given area(s) and time(s). The ownership of a fishing boat does not imply the holding of a licence.

The law established a machinery of interlinked committees charged with coordinating research and updating of the management plans.

Also, as explained above, provisions here were also made to allow for the setting up of a national system of fisheries statistics, permitting a regular flow of reliable catch and effort data aggregated at the same level as the licenses. In fact, the Italian waters must now be also subdivided into "homogenous districts" for the sake of management.

The law is the final outcome of a long process initiated with the technical help of the FAO-sponsored General Commission for the Mediterranean Fisheries (GFCM), through the goodwill and expertise of scientists such as D. Charbonnier, J.-P. Troadec, S. Garcia, and J. Caddy, a series of ordinary sessions and technical meetings<sup>(a)</sup>, and through the production of valuable reports (among others, I would like to mention P. Pearse's report on the control of fishing effort in the Mediterranean (Pearse 1979; GFCM 1974, 1982) to which I contributed some input, but from which I received just as much output). A major role was played, in the Ministry, by Dr. L. Palladino, a true "civil servant" (Palladino 1987a-d, 1988a-i).

To this mixture of cooperative stimuli and action should be added the legal provisions, the technical regulation and the largely successful

implementation of a 40-mm stretched mesh-size in trawl cod-ends, as recommended by GFCM<sup>(b)</sup>.

A period of two to three years was foreseen by Law No. 41 for the setting up of the abovementioned decision-making machinery and its last article made provision for a preliminary plan. I was charged, together with a fisheries economist of the University of Salerno, Prof. M. Spagnolo, to prepare a background document (Levi and Spagnolo 1982) for this plan.

No stock assessment research program funded by the government has started yet (although some research had already been carried out in the Adriatic Sea with other funds, as we shall see below) and we made an effort to analyze the available official statistical data on landings and fishing effort and the available ancillary information and economic data that we are able to collect. Most of the proposals contained in that study were incorporated into the first plan, and most of them survived into the second one.

Among the most successful parts of that study were a number of suggestions on quick, direct methods for assessing fishable resources (trawl surveys, echo-surveys, catch and effort sampling, etc.) to overcome the historical lack of fundamental data alluded to at the beginning of this note.

Is the picture presented so far too rosy? Yes, of course. The feedback mechanism linking research and decisionmaking (i.e., management) will require perhaps a dozen persons such as Mr. Palladino in the Italian fisheries administration, at all levels of responsibility. Unfortunately, such persons are rare; not only do staff change continuously (according to Peter's principle) but sometimes Ministers are not up to the refined mechanism provided by an advanced tool such as Law No. 41, and "break the toy" (Anon. 1989; Levi 1989; Prandini 1989).

Is the picture complete? Of course not!

A great deal could be said about the remarkable research on resource evaluation and bioeconomic modelling (and not only) conducted by a number of so-called "Operative Units" along the 8,000 km of Italian coasts (see Fig. 1), deploying a research effort, a mobilization and a growth of competence, and cooperation between the CNR, the universities, the research cooperatives and individual scientists never seen before in Italy, especially in fisheries research (Anon. 1988).

(b) Art. 100 of the "Regolamento per l'escuzione della legge 15 Luglio 1965, n.963, concernente la disciplina della pesca marittima" (as from D.P.R. 2 Ottobre 1968, No. 1639), concerning "Mizurazione della maglia delle reti" (as from D.P.R. No. 651/1978), and the subsequent "Approvazione misuratore di maglie a carico longitudinale e del misuratore triangolare" (as from D.M. 21/5/1981).

(a) The 9th Session of GFCM created a Working Party on Resources Appraisal and Fisheries Statistics in 1967. The reports of the Working Party were published as annexes to the Session Reports of GFCM and only since 1976 have they been regularly published in the FAO Fishery Reports series. Assessments of demersal and pelagic resources by GFCM statistical subzones were carried out in special working parties that were regularly convened in Rome almost every year. The First Session of the Committee on Resources Management was held in 1976, but after three years, a decision was taken to divide its work by statistical division. A summing-up of their main conclusions and decisions was then submitted to the main sessions of GFCM, where the governments of Mediterranean countries are officially represented. The 9th Session took place in Livorno, Italy, from 27 February to 3 March 1989.



Fig. 1. Map of Italy showing Sicily and the city of Mazara del Vallo, site of the ICLARM/KISR International Conference on Length-Based Methods.

May I underline one of the most recent "fruits" of two years of seasonal trawl-surveys carried out by my Institute in half of the channel area between Sicily and North Africa: a nice "recruitment calendar" of main commercially important demersal species, which provided the basic guideline to regional authorities for the timing of a seasonal fishing ban in the same area (Levi 1989), patterned after the famous "Cyprus case" reported in Garcia and Demetropolous (1986).

A lot could also be said on the new trends in fisheries research and management, started in the Mediterranean Sea by Prof. Bombace of the Institute of Ancona where I worked for twelve years before coming to Mazara del Vallo in 1982 to establish a new Institute.

This concerns the multi-purpose "artificial reefs" line of research (Bombace 1989). This topic would require an article of its own, but for the time being just let me suggest that artificial reefs represent, among many other things, a true alternative for coastal trawl fishermen who cannot go on sweeping

out the same narrow bands of coastal waters. Some of these grounds are precious nursery areas for most demersal species and moreover, often consist of delicate and productive *Posidonia* beds (GFCM 1989).

Concluding this article, I realize that I have skipped reporting on the few assessment research programs which had been undertaken mainly in the Adriatic Sea, long before Law No. 41 came out (Levi 1978; Levi and Andreoli 1981; Levi 1981; Levi et al. 1983; Levi et al. 1984; Azzali 1977, 1980a, 1980b, 1981; Azzali et al. 1980a, 1980b).

I guess I'll have to come back to this in the near future.

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