The Economics of Aquaculture with respect to Fisheries

95th EAAE Seminar
Civitavecchia (Rome), 9-11 December 2005

Edited by
Kenneth J. Thomson and Lorenzo Venzi

CONCLUDING REMARKS

Kenneth J. Thomson

The papers reported in these Proceedings represent a varied but selective sample of research studies being carried out in countries around the world in the light of the crises facing traditional and conventional fishing in many regions, and the growth of the aquaculture sector as a major source of close product substitutes. Even without the interactions between the wild-catch and farmed sectors which are present on both the supply and demand sides of the markets involved, these significant economic developments would constitute fertile grounds for investigation in terms of resource use, market competition and food expenditure behaviour.

In fact, however, and as mentioned in the introductions to many of the papers in these Proceedings, the growth of aquaculture has triggered a number of concerns in relation to conventional fisheries. These links include:

- restocking of depleted fisheries
- sourcing of aquaculture feed, in particular from wild catches and by-catches
- escapes from fish farms changing the genetic composition of wild populations
- environmental damage through water pollution and fish disease
- competition for resources such as labour, capital and investment funds
- competition for consumer choice as between wild-caught and farmed fish
- competition for policy (i.e. government) support and preference.

Several of these aquaculture-fisheries interactions are explored in some detail in the papers of this volume, but not all, as is not surprising given the breadth of the fields involved and the constraints on Seminar participation. Moreover, as with on-land farming (with its rather narrower range of livestock species), each fishery and species has its own characteristics, not to mention the variabilities and differences imposed by climatic conditions and by different legal and management approaches. Nevertheless, the principles and methodologies exhibited here may well be of wider application, and it is hoped may stimulate readers towards new ways of tackling their own problems and concerns.

It may be of interest to apply the well-known SWOT (Strengths, Weaknesses, Opportunities, Threats) management tool to the Seminar papers as a group, in an effort to appraise how well the research community, as represented here, is performing in its (partly self-appointed?) task of clarifying isues, suggesting solutions, and forecasting the future. Everyone will have their own view, of course, but the following remarks are suggested:

Strengths: These included the global modelling efforts, such as that by Arnason, which seek to formulate and convey a broad message about sectoral inter-relationships and current/future developments on the supply side. Also, the detailed investigations of consumer attitudes and behaviour towards wild and aquacultural products throws light on how demand is being restructured, not only by changes in these factors but also by structural changes in the population as a whole, such as smaller families, more old people, etc. Case studies, too, have their place in showing how imaginative, hardworking and well organised

entrepreneurs can achieve competitiveness despite apparent local barriers and external threats.

Weaknesses: The Seminar was deliberately aimed at economists, who have a common approach and language for their discipline, thus saving the need much explanation. However, this perhaps meant that relatively little attention was paid to particular technologies, whether for wild catches, fish and shellfish farming, or post-harvest processing. In each of these areas, developments were generally assumed to be either static, or progressing smoothly at a continuous rate. While at an aggregate level, this may be true, individual fisherman, fisheries manages or even countries are in practice often concerned with a less stable world, in which risk (a topic targeted by Asheim *et al*. but not yet tackled in practice) looms large.

Opportunities: It is noticeable that the economic approach adopted in most papers was relatively simple supply-demand or production-cost analysis; no-one at the Seminar reported approaches based on the investigation of industrial behaviour such as Structure-Conduct-Performance analysis, or oligopoly theory. Possibly these (especially the latter) are adequately covered by researchers not represented at Civitavecchia, but they may suggest novel ways of approaching the analysis of a sector (aquaculture) with increasing concentration – at least at national level – and focus on branded products.

Threats: As put by the national poet of this author, "The best efforts of mice and men gang aft agley" (i.e. awry, or wrong), and economists are no less vulnerable than others in this respect, however skilful their empirical and modelling expertise. Long-term "macro" trends and events, such as the rise of the Chinese economy, or a serious global energy crisis, could render invalid many conclusions based on a more stable environment. A different kind of threat to the conclusions of some analyses in this volume are new and increased inter-species interactions, which may render the production of certain species more or less attractive. However, joint production of multiple products is a notoriously tricky field of enquiry.

Finally, while hardly a criticism of a Seminar held under the auspices of a European association, it is obvious that the problems analysed here exclude a vast number of other and often more serious ones in other parts of the world, particularly in developing countries where fishing populations are often poor and marginalised, while at the same time access to both clean water and protein nutrition are of perennial concern. As evidenced even in some of the current papers, international trade across the globe plays an increasing role even in local and remote locations, sometimes for better, sometimes for worse. If some of the expertise exhibited in these pages can be re-applied in these directions, European economists and their visitors will not be completely exposed to the charge that they are concerned only with "local" problems without attention to others elsewhere.

It is to be hoped that this Seminar and its Proceedings will be followed by further evidence of academic progress in this area of applied economics. Journal editors should be encouraged to consider a "special issue" bringing together a small number of high-quality papers subject to full peer review. The European Commission's Framework Programme 7 provides several opportunities for collaborative research and mutual discussion and training

projects to be proposed and executed over the next few years. Moreover, policy developments, such as the evolution of the Common Fisheries Policy, and international trade and resource-access negotiations, provide opportunities for economists and others (such as legal experts) to apply their skills to new problems. In these ways, the scientific achievements evident in these pages can be built upon for the future.