

Dyson adds that the book fails to "examine critically" the literature of the dangers confronting us. Can this be true? It evaluates lengthy arguments not only from doomsayers but also from their critics, concluding on page 146 that humankind's chances of avoiding extinction in the near future are "encouragingly high".

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There aren't plenty more fish in the sea

Sir— Six pages of Briefing on fisheries science (*Nature* 386, 105–110; 1997) ably demonstrates why the fisheries sector is in crisis. The reality is that if fishermen meet the market demand for fish, fish stocks will be completely fished out within a very short time.

There is only one answer to the fisheries crisis: we must farm more fish. Every fish the market receives from farming means that one less fish needs to be caught from the sea. The problem is that there is no universal species or farming technique that

will supply world needs. Appropriate requirements need to be identified on a local basis. Such limitations deter those looking at global solutions.

Unfortunately, this simple solution to the fisheries problem is unlikely to become a reality, for two reasons. The first is that traditional fisheries scientists have little knowledge of aquaculture and therefore do not perceive it to be a realistic solution. The second reason, and one that simply confirms the first, is that poor publicity from one or two examples of aquaculture where things have not gone quite right have damaged the potential for the aquaculture industry.

The example used in your Briefing is of shrimp farming, not fish production. There is no doubt that the commercial exploitation of farmed shrimp has led to problems. That is because previously extensive production units have simply been intensified beyond their capacity. While there is a clear focus on short-term rewards, there is also an increasing demand for these shrimp from the West, which has been met by this uncontrolled intensification.

Such over-exploitation of extensive farming techniques is the inevitable result of a fisheries sector that has marginalized aquaculture. This applies equally to Europe, where the European Commission has

decided that aquaculture development should be determined by individual commercial ventures rather than by defined long-term strategic policies. Aquaculture features only as a structural policy, not as part of any grand plan.

In Europe, while ministers argue about whether they should cut fishing by 20% or 30%, they are missing the opportunity to develop large-scale low-cost fish production. This is not comparable to the coastal pond systems used to produce shrimp in Asia, but instead is a form of offshore open-sea farming on a huge scale. Not only would this supply much of our fish requirement, but it would also create many needed jobs for skilled fish handlers.

Fisheries policies, as outlined in the Briefing, do not seem to have worked. Maybe it is now time to go back to the drawing-board and re-evaluate our fisheries needs. If we drop all our preconceived ideas and start again with a clean sheet, maybe we could guarantee the survival of our fish stocks. The alternative is that fish will disappear from both the seas and our diet.

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