

Introduction of the overall challenge

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The theme “sustainable fisheries and aquaculture” is of particular interest for Norway since we are the second largest exporter of fish and fish products in the world (45 billion kroner in 2009, more than 5 billion Euro). I am sure that we all will come out from this debate with some more knowledge and thoughts about the life in and the use of the ocean covering about 70% of spaceship Earth. The language will be the international scientific language, namely bad English, to make sure we all understand each other.

There are continuous wars out there, where 99.9% of all fish babies are dying, mainly being eaten, and cannibalism is flourishing. The ocean “weather” is changing from dead calm to full “storm” in few minutes or hours, and the slower climate variability and change poses great challenges for nature to adapt. Thus, there is no such thing as an “ecological balance” at least not on time scales shorter than decades.

On top of this we have the often greedy homo sapiens, and a major issue in marine ecology is how food webs are controlled or regulated by their environment **and** the human interference. This obviously has important implications for the management of marine resources, whether the issue is harvesting these resources or protection of species and ecosystems. This also relates to aquaculture, where challenges are shifting from understanding the environmental impacts and optimizing human induced techniques for maximizing farming, to prevent negative impacts on coastal ecology.

The overall key questions to be raised are therefore: What do we want the marine and coastal ecosystems to look like and produce for a long term sustainable benefit for society (political goals), and who shall work out and decide these goals? And more important for the managers and scientists: To reach these goals, what are the key challenges within research, monitoring, management and control?

If we mix a cocktail of these questions, including stakeholders, customers, managers, politicians, and not the least scientist, we are at the heart of the internationally accepted marine challenge called “the ecosystem approach” to be followed up by my colleges.