

Title: **Fisheries and Aquaculture Management Within the Scope of System Approach; A Review of Experiences, Limits and Advantages**

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Abstract: Fisheries and aquaculture are part of a complex system with underlying relationships between species and other activities. This calls for more integrated assessment, leaving a management based on stock assessment and single species. The ecosystem approach for fisheries management (EAF) as well as the more recent ecosystem approach to aquaculture is a logical framework developed in that way. It especially highlights the role of human aspects and the management of a range of human interactions with the fishery ecosystem (FAO 2008). But remaining centred on fisheries it can sometimes be understood in a way to manage the environment through the fisheries lens and for fisheries.

More holistic and integrated approach such as system approach is complementary to EAF. By aiming at better understanding coastal system dynamics, it defines a framework allowing for integrated management and a way to explore the range of possible futures. But similarly to EAF and as an integrated assessment its implementation faces common issues such as boundaries, scale and scope.

The paper examines conditions and means to complete an integrated assessment in a system approach. Through experiments implemented within the EC FP7 SPICOSA project (Science and policy integration for coastal system assessment) it reviews limits and benefits of the approach to drive back coastal fisheries and aquaculture on a sustainable way.

Keywords: System approach, EAF, Fisheries and Aquaculture management, ICZM