TOWARD A PLAN FOR AN INTEGRATED MANAGEMENT PROCESS: AN APPLICATION IN THE SOUTHERN GROUNDFISH FISHERY OFF CHILEAN COAST

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Economics of fish resources and aquatic ecosystems: balancing uses, balancing costs

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ABSTRACT

This paper illustrates a case study to identify problems and actions to build the basis for an integrated Fishery Management Plan, ***considering stakeholders participation***. The study was carried out on the southern complex multispecies demersal fishery, operating on various scales of production under a right-based fishing system ***(FIGURE 1).*** A multimethodological approach (Mingers, 1977) was used. A ***key-question*** was formulated to relevant actors, to bring forth their perception regarding the many problems faced by the fishery . Stakeholders were previously submitted to a ***personality test*** to achieve successful interaction during workshops. These were planned following different approaches (Ackerman and Eden, 2001), (Delbecq and Van De Ven, 1986), (Jung, 1976), (Sieler, 2007), (Bandler and Grinder, 1975; 1982). This approach ***(FIGURE 2)*** used a communication mode (Trujillo, *et.al*, 2008) to allow confidence and consensus among stakeholders to bring forth a world (Maturana, 1988). Thus 9 relevant ***Key-MacroProblems*** were identified out of 500 problems obtained from individual interviews ***(FIGURE 3).*** These were defined as: ***The inadequateness of the legal framework;*** **Inadequate government public policies; L*ack of government capacity to undertake fisheries management; A*rtisanal fishery weak governance; S*ernapesca weak monitoring system; L*ack of association in the artisanal fishery; I*nadequate design of management procedure (pesca de investigación; G*overnment authorities lack of political will;* Lack of a *Participative co-management model; L*ack of fisheries knowledge integration to management*** Key-Problems perceived by stakeholders reveal weak governance in the interface science-policy-fishery decision making. Stakeholders questioned fishery viability in the long run. The feasibility of addressing Key Problems and shaping them as building blocks to support the management plan was explored using social game approach (Matus, 2000) ***(FIGURE 4)***.

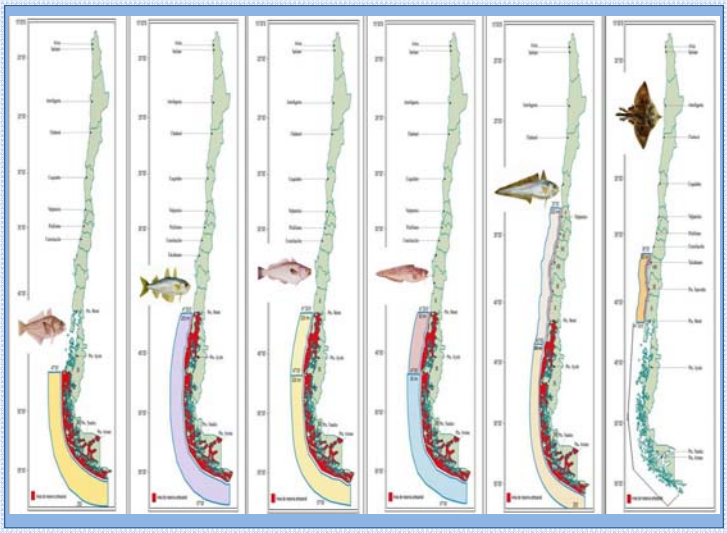


FIGURE 1: *DISTRIBUTION OF FISHERIES RESOURCES IN THE SOUTHERN DEMERSAL FISHERY*

FISHERY'S CHARACTERISTICS

At the present time the Southern Demersal Fishery (SDF) is an aggregate of six species: *Dissostichus eleginoides*, *Genypterus blacodes*, *Merluccius australis*, *Macruronus magellanicus*, *Micromesistius australis* y *Dipturus chilensis*. Geographically *SDF* is distributed between 41º 28,6' S.L and 57º 00' S.L . In this area artisanal fishery operations takes place in the fiords area while industrial fleet operates on the continental shelf.

THE PROBLEM

The core problem is to design a Fishery Management Plan taking Stakeholders into account.

INQUIRING SYSTEMS APPROACH

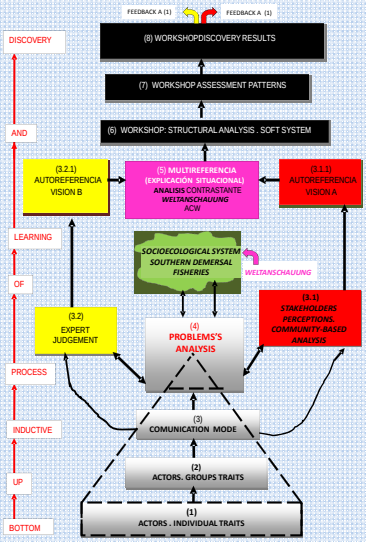
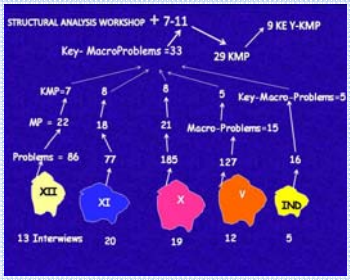


FIGURE 2: *INQUIRING SYSTEM TO DISCOVER THE BUILDING BLOCKS FOR THE FISHERY MANAGEMENT PLAN (FMP)*

STAKEHOLDERS ANALYSIS

FIGURE 3: STAKEHOLDER INTERACTIONS TO IDENTIFY KEY-MACROPROBLEMS



Different stakeholders Groups interactive process of inductive learning and discovery generates the building blocks for the Management Plan.

RESULTS

The Fishery Management Plan (FMP) has to be constructed or assembled with two components:
a) The inputs from scientists and
b) The inputs from stakeholders
The first ones are related to the actual status of the Fishery.
The second ones (MPr6, P2, MPb 6, MP 18, MPb 8, B7, P16) are Problems if solved provide technical-political viability to the Plan.

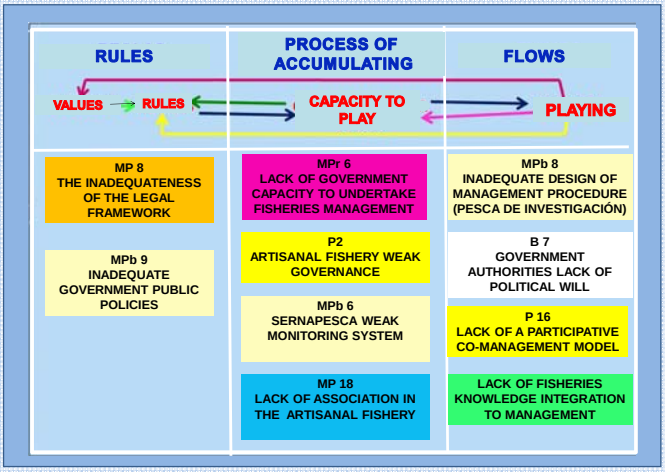


FIGURE 4: (REF. ADAPTED MATUS 2000)

CONCLUSIONS

1.-In this case the Fishery Management Plan has to take into account the different 9 Key-MacroProblems constraints . Otherwise the Plan would be difficult to implement.

2.-Stakeholders and scientists base d on the study result concluded that the southern demersal is not viable one in the long term.

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