Exploration partnership for the implementation of sustainable development in aquaculture

Syndhia Mathé[a], Hélène Rey-Valette[a], Eduardo Chia[b]

[a]University Montpellier I, CEP/LASER, Montpellier, France; [b]INRA,CIRAD, UMR Innovation, Montpellier, France - [mathe.syndhia @univ-montp1.fr](mailto:mathe.syndhia@univ-montp1.fr)

Abstract *The appropriation of sustainable development (SD) demands that stakeholders define the SD objectives. The exploration partnership and its management is a way to facilitate the definition of these objectives by producing different learning process.*

Keywords: *sustainable development, exploration partnership, learning processes*

Introduction

Sustainable development (SD) currently involves and will involve many changes in the aquaculture sector. These changes will concern production, management practices and the aquaculture profession. This implies that the actors, and more widely the stakeholders of the aquaculture field, must adapt SD to their personal situation. However, it should be noted that this appropriation is a very slow or non-existent process at the moment and requires strong implication on the part of stakeholders in order to define the objectives and actions for SD implementation. The stakeholders need to develop a common network which will enable them to act as a collective actor, i.e. improve their coordination and cohesion as a group. In this article, our aim is to illustrate an exploration partnership (EP) between stakeholders (Segrestin, 2003) as a framework in which producers, providers, administrators and civil representatives related to the SD issue in aquaculture can be considered as a collective actor. EP, which was initially developed by the stakeholders and researchers, is characterized by its instability regarding coordination and cohesion aspects, but the different learning processes developed will reinforce it. Thus, the collective actor will define SD objectives and actions that help improve SD appropriation.

Method

Within the context of an Aquaculture SD Assessment Project funded by the National Agency for Research, EP has been implemented at a local level in various geographic areas (The Philippines, Cameroon, Indonesia, Brittany and the Mediterranean Sea). This project involves managing the EP framework by introducing stakeholders to an individual and collective learning process and by ensuring the conditions required for their mobilization. Firstly, we studied stakeholders' representations and secondly, we developed and used intermediate objects consisting of SD Principles, Criteria and Indicators (PCI) in aquaculture (Rey-Valette et al. 2007). We analyzed the representations that stakeholders have regarding aquaculture, SD and the development of aquaculture towards SD. This study enabled us to understand the strategy employed by the actors, what they understand about SD and how they view its application in the aquaculture sector. Our hypothesis is that SD will be implemented all the more rapidly if it complies with actor representations and if the action context is favourable. Thus, we associated a representation study with an aquaculture system study (based on producer's practices) in order to build the aquaculture SD PCI. On the one hand, these PCIs will be used as intermediate objects to support group discussions with the stakeholders but on the other hand, they will also represent an object that the actors will be able to adapt to their personal case by means of translation, do-it-yourself and hybridization processes.

Results

Our results from the various areas show that conducting an EP project supports individual and collective learning, particularly in a double loop context (Argyris and Schön, 1996). This involves changes in the practices and values of individuals. The members of the collective have developed operational learning processes which will modify their action strategy as well as their values underlining this strategy (governing variable). The following Table provides an overview of the various

types of learning processes that were developed and encountered during the EP project and describes the process which was used and the objects on which the learning process and management devices are based. We noted that the level of implication of the actors regarding the aquaculture SD issue determines the type exchange in the EP (information, consultation, communication, and negotiation), the learning process and the type of object used by the researchers.

Table 1. Types of learning processes developed by conducting the EP project

	Single loop learning process		Double loop learning process	
	Object	Process	Object	Process
Individual learning	**INFORMATION**		**CONSULTATION**	
	- Technical devices (practices) - Normative reference frameworks	- Individual Audit **(1)** - Assessment **(2)**	- Representations - Logics - Language	- Routines **(4)** - Internalization **(5)** - Management **(6)**
Collective learning	**COMMUNICATION/MEDIATION**		**NEGOTIATION/CONCERTATION (dialogue)**	
	- Territorial assessment	- Organisational skills **(3)**	- Intermediate objects (PCI) - Interactive processes - Hybrid forums - Self assessment	- Co-operation, framing and piloting **(7)** - Translations, do-it-yourself, hybridization **(8)** - Self organization **(9)**

The following Table illustrates the different processes referred to in the previous table within the various areas.

Table 2. Illustration of the learning processes developed by conducting the EP project

	Single loop learning process	Double loop learning process
Individual learning	- (1) Individual positioning with respect to the importance of the concepts described in the PCI - (1) Increasing awareness of the need for information about production systems and pollution cause (Indonesia) - (2) Clarifying the possible solutions for the revival of fishfarming (Cameroon)	- (4) Clarifying SD representations (Cameroon) - (5) Demystifying the SD concept: describing the content of SD (Brittany) - (5) Internalization of a new concept such as biodiversity (Indonesia) - (5) Lengthening the time scale for current reflections (Brittany) - (5) Improving SD understanding: it is no longer a useless concept (Brittany)
Collective learning	- (3) Collective acknowledgment of the significance of aquaculture in West Cameroon - (3) Increasing awareness of the need for providing a territorial dimension to aquaculture (the Mediterranean Sea and Indonesia)	- (7) Establishing an inter-institutional steering committee (Cameroon) - (8) Modifying the nature of the dialogue existing between popularizers and institutional actors (Indonesia) - (8) Developing a dialogue and common objectives and identifying priorities (Indonesia)

Conclusion

EP is a coordination process between actors that satisfies the governance principles required for SD implementation. However, this partnership is not a natural mechanism simply based on the common SD issue in aquaculture and needs to be conducted to facilitate its development. Supporting the learning process will be a driving force which will improve the partnership's durability and contribute to its success and institutionalization. The difference between EP and other types of governance is the fact that, initially, EP is a precarious device based on a common problem and tends towards institutionalization. In addition, EP project management can even be intensified and result in an action research in which the researcher's position changes as he/she is not only a "facilitator" but also becomes an "EP actor".

References

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