



VIVALDI project

Analysis of the stakeholders'
perception of shellfish diseases
in France

WP6

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Conclusions and recommendations

The present work was built on a corpus of data already constituted through formalized interviews conducted in two waves in February and June 2018. The corpus of data was presenting a certain number of biases. Their highlighting and potential influence on the interpretation has oriented our methodological choices towards two very different but complementary approaches: the linguistic analysis of the corpus and the actor network theory, in order to answer the questions of Vivaldi work- package 6. These questions were under four headings:

- 1) the rules of the game of stakeholders/ stakes
- 2) conflicts and / or interests of stakeholders to manage (or not) shellfish diseases
- 3) the strategies developed by each other
- 4) potential levers to change the situation

The corpus of available data and certain revealed biases did not make it possible to answer in detail to all of the questions. Nevertheless, the analysis made possible to extract a significant amount of information that could provide the beginning of answer and hypotheses to be deepen later. Indeed, taking into account all the biases identified and the use of two separate analysis methodologies lead to convergent results. That is providing evidence of the robustness of the results.

In doing so, this initial work must be considered as a preliminary study for further consolidation with a view to confirming (and / or invalidating) the hypotheses drawn up through a re-evaluation of research questions and methodology in the broad sense to be implemented.

1. Key results

1.1 The existence of a real network of dense relationships

Within the aims of Vivaldi's WP6, the identification of the stakeholders to be interviewed focuses on organizations intervening from the point of view of the technical management of diseases. This is an animal health entry which has been privileging regarding the interviews conducted with interprofessional and administrations. In fact, the analysis of the network provides a notorious representation since the IFREMER, the DPMA, the DGAL, the DDTM, the CRC, the CNC and the professionals, by the relationships which link them, their density and number, draw a particularly dense real network. However, without questioning the existence of the latter, the two analyzes carried out thanks to linguistic and actor-network theory, demonstrated the incompleteness of this network. Indeed, the latter is part of a more extensive one, at this stage still unclear. As a matter of fact the sampling biases did not making it possible to question all the stakeholders interested in the management of shellfish diseases.

1.2 Within this real and dense network, the existence of divergences

Linguistic analysis, focused on the structural and semantic approach, revealed divergent visions as to how to verbalize, and therefore consequently to problematize, the issues presented by episodes of mortality (or illness according to the different actors). In particular, it showed that the six stakeholders chosen did not have a homogeneous vision, but rather discourses shared by diade or trio that converge with institutional cultures. Thus, national institutional cultures emerge versus territorialized organizations, state versus non-state administrations. These divergences appear as well in the universes of references (which can be assimilated to social representations) as in the modalities of actions and the relationships maintained by the stakeholders of the network among themselves. It can also be observed with the other stakeholders. Thus, the DDTM and the CRC, as territorialized organizations, are the one that maintain the most relationships with the greatest diversity of stakeholders, within the dense network, but also in terms of wide area network. Conversely, IFREMER, the CNC, or even the DGAL has its own network which is more limited and often less rich in terms of the typology of actors.

1.3 A fast-changing network, subject to uncertainties for some stakeholders

Beyond stable or static representations (which the methodological choices have induced), linguistic analysis has also demonstrated the expression of uncertainty face to a network of stakeholders in reorganization. This latter is particularly imaged by the evolution of the place and role of IFREMER within the network. Indeed, the network of stakeholders placed in a form of temporality has also demonstrated the evolution of relationships over time between IFREMER and the 5 other institutions interviewed. Particularly dense, these relationships have gradually weakened leading to the search for new partnerships and the establishment of links, still weak for the moment, with new stakeholders to provide a response to the place(s) and role(s) previously occupied by IFREMER. Far from being specific to the institutions questioned, this analysis also echoes the uncertainty felt and expressed by professionals through the questionnaires carried out..

1.4 A figuration of the network reflecting an incomplete problematization

Network modeling demonstrated that the network of stakeholders involved in the management of shellfish diseases was actually larger than the six stakeholders who were identified for the survey. However, these external stakeholders, not all yet visible, are important to take into consideration as they maintain strong ties with some of the six stakeholders interviewed. More than that, they are, for some, the object of new links with stakeholders previously considered central in this management. Nevertheless, they are currently little considered when it comes to the management of shellfish diseases. Linguistic analysis provides a first response to this lack of consideration by revealing the existence of linguistic taboos - such as that concerning the word "mortality" - and via the different reference universes. Thus, the quality of the environment, an essential concern of professionals, is particularly absent from most of the reference universes of the stakeholders

interviewed. This combined analysis leads us to make the hypothesis of an incomplete problematization, in the sense of the actor-network theory. The current one is constructed from a constellation of representations which do not have the same impact. However, in the absence of a problematization involving all the stakeholders interested in shellfish diseases, any constructed convergence will be particularly fragile. As it stands, our analysis leads us to identify the incompleteness of the network of stakeholders and the problematization as important weaknesses to the management of shellfish diseases.

2. Elements and directions to consider for further study

Since incomplete problematization has been identified as one of the obstacles to the management of shellfish diseases, it would seem interesting to work on several aspects. Firstly, it seems necessary to confront the network drawn here according to stakeholders interviews with the network drawn by professionals while carrying out the same work of linguistic analysis in order to confront the universes of reference as well as to confront the drawn networks. From this initial investigation, sticking points and controversial subjects would be identified and investigate further.

Secondly, it would also be necessary to work on the periphery of the network, by opening the spectrum of stakeholders to be questioned beyond the zootechnical point of view. Beyond refining the vision of the network, this work would help to identify the stakeholders to be involved in management. It would also participate in considering all the issues and interests involved.

Third, an in-depth work on the non-human actors such as shells, diseases, mortality, the quality of the environment, etc. is necessary as the linguistic taboos and the universes of reference around them diverge between stakeholders questioned and professionals. Indeed, they should be integrated into the modeling of the network because their identities are labile and influence the dynamics of the network according to the links they create or break with human actors, whether individual or collective. In addition, from a linguistic point of view, the absence of a clarification of what is understood by the stakeholders when they use these terms can lead to harm the mutual understanding of the stakeholders and induce a very partial problematic work.

Fourth, it would be interesting to interview several stakeholders from the same institution to densify the subject and the currently incomplete universes of references. Indeed, currently, only one person (apart from the DDTM, but it was not individually) having been interviewed at each interview.

Lately, and in order to deepen the linguistic analysis, it would seem relevant to carry out a work on the different worlds of references mobilized by the stakeholders thank to the work of Boltanski and Thévenot¹. This analysis, based on a larger corpus of interviews and on a more diverse sample of stakeholders, would be particularly complementary to the network and linguistic analysis to analyze the origins of convergences and controversies.

Two evolutions also seem necessary beyond the elements mentioned above. The first is to focus not on perceptions, but on representations. In fact, perception designates *“all of the mechanisms*

¹ BOLTANSKI, Luc, THÉVENOT, Laurent. De la justification : les économies de la grandeur. Paris : Gallimard, Coll. Essais, 1991, 483 p.

and processes by which the organism becomes aware of the world and its environment on the basis of information developed by its senses”² (Bonnet et al. 1989, p. 3). Representations, on the other hand, produce a grid for reading reality, which gives individuals the means to organize and plan their actions. Mental representations are developed through the relationships that an individual has with his environment. In this sense, they are specific to each³. Thus, if during all this analysis we used the term of perception to register in coherence with the Vivaldi project, this one seems nevertheless not very appropriate with regard to the object of the study and we wish to suggest the use of the term “representation” in the future.

Finally, if the question of management has been addressed, the non-management has been seen in a very superficial manner. However, some of the interviews revealed the interest that the non-management of diseases could represent. Speaking of perception of shellfish diseases and their management, it seems essential to dig deeper into this question.

3. Methodological recommendations for an in-depth study

In order to refine the analysis and confirm the results obtained during this work, it would be advisable in a forthcoming survey to consider several aspects which could allow a better understanding of the socio-ecosystem dynamics.

First of all, the temporality of the survey will have to be rethought in order to base the analysis in a long time which can highlight the underlying dynamics of the network of stakeholders in relation to the qualitative evolution of the links that constitute it (weak links, strong links). Likewise, in order to avoid biases in the orientation of discourses linked to internal issues of the network of stakeholders, it would be advisable to have the interviews carried out by a person " outside " the considered network.

The sampling of individuals to be surveyed should be thought of in a broader and less oriented perspective by including the possibility of interviewing stakeholder not initially envisaged (e.g. Water Agency, ARS, banking sector...). Similarly, the definition scale of what is a “stakeholder” should be reconsidered by opening the “black boxes” of the institutions. This would make it possible to reveal the internal processes of discourse construction and the power games taking place.

It would also be interesting to conduct the interviews in a comprehensive and semi-structured manner by using a single interview guide common to all stakeholders. In one hand, this will allow to have a comparable basis without differentiated orientation effect between the categories of stakeholders and, on the other hand, it will give more flexibility to understand and analyze the representations. Likewise, to benefit from all the richness of the interviews, it would be necessary to transcribe the laughs, the blanks, the long hesitations, body language, etc. which are essential informations to contextualize the remarks made during the interviews. In the same vein, it would

² BONNET C., GHIGLIONE R., RICHARD J-F. (Dir.). *Traité de psychologie cognitive, Vol. 1, Perception, Action et Langage*. Paris, Dunod, 1989, 266 p.

³ RIVIERE-HONEGGER A., COTTET M., MORANDI B. *Connaître les perceptions et les représentations : quels apports pour la gestion des milieux aquatiques?* Rivière-Honegger Anne; Cottet Marylise; Morandi Bertrand. France. ONEMA, 2015, Comprendre pour agir, 979-10-91047-35-7. halshs-01248761

also be necessary for the people who conducted the interviews to also be the ones analyzing them afterwards.

Finally, if the case study makes it possible to conduct a "thick description"⁴ in order to enrich the existing theory and to aim for an analytical generalization⁵, it would nevertheless be interesting to replicate the study in other European countries, whether or not they were involved in Vivaldi, in order to judge the replicability or the transferability of the results. Indeed, the management methods, the organization of the profession, etc. differ. As a result, the analyses provided by a case study carried out only in France could be very different in terms of results as well as the shellfish disease management methods to be implemented compared to other countries.

⁴ GEERTZ, Clifford. Thick Description : Toward an Interpretative Theory of Culture. The Interpretation of Cultures / ed. par Clifford GEERTZ. New-York : Basic Books, 1973, p. 3-30.

⁵ AYERBE, Cécile, MISSIONIER, Audrey. Validité interne et validité externe de l'étude de cas : principes et mise en oeuvre pour un renforcement mutuel. Finance Contrôle Stratégie, Juin 2007, Vol. 10, n° 2, p. 37-62.