

Transdisciplinary Fisheries Case Study Questions (EXAMPLE)

1. **Your name:** Marc Léopold
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4. **Your role in the case study:** Project Coordinator (2008-2011)
5. **Geographic location(s) of the case study:** New Caledonia (communities of Voh, Koné, and Pouembout)
6. **Please describe the fisheries case study (500 words max):**

This coastal area has been exposed to rapid and significant economic and urban development since 2005 due to the establishment of an on-going major mining complex that is rooted within current political issues of the New Caledonian decolonization process. A team of scientists of different disciplines (fisheries, ecology, socio-economy, anthropology, law, computer sciences) worked closely with the local bodies to take early actions to address the expected changes over the area through better knowledge and engagement of stakeholders.

The area was considered as a social ecological system (~700 km², 15,000 inhabitants, 3 small towns, 7 Melanesian villages). Knowledge on the economic, social, cultural and environmental issues related to the changing lagoon uses mostly came from local perceptions (as well as conventional environmental monitoring) through qualitative surveys, interview surveys, and participative monitoring approaches.

7. **Please identify the major issues, problems, situations, or solutions in this case study that require a transdisciplinary approach:**

I initiated a transdisciplinary approach because rural development linked multi-sector issues (see details in section 10). My initial focus was on participatory methods for the collection of small-scale coastal fisheries data. Engaging with this data led me to broaden the scope of my research and to involve other scientists and stakeholders. The objective was to with approach the system's intersecting issues (rather than only one) to improve the sustainability of coastal fisheries in the study area.

Specific transdisciplinary issues included:

- Implementation of co-management approach to solve overexploitation issues
- Definition of the structure and functions of the social ecological system under focus through local perceptions
- Involving a team of scientists of different disciplines (including environmental and social sciences) to open the transdisciplinary process in practice

- Addressing connected and dynamic economic, social, cultural and environmental issues
- Collection and use of local ecological, social, and cultural knowledge
- Development of participatory monitoring programs of marine resources

8. Please list the stakeholders involved in this case study:

- Professional fishers
- Recreational and subsistence fishers
- Buyers of marine products (middlemen)
- Traditional representatives
- Mine operators (KNS)
- Scientists
- Provincial public authorities (Environmental Division, Fisheries Division)
- Political leaders

9. Please describe what steps (if any) have been taken to change any problems described:

This knowledge was debated between scientists and with stakeholders through various ways (meetings, participative working groups, slideshows, video projections, booklets, and media coverage), which was part of the knowledge production, knowledge validation, and engagement process.

Work was thus carried out adaptively to fit local agendas and use on-time results to define directions for research.

Unexpectedly this research showed that the conditions for successful community involvement and shared governance are not currently met at the study area scale. Instead, our study paved the way for actions that would build on existing or emerging local initiatives at smaller scale to possibly scale them up in the future. For instance a co-management initiative has been successfully implemented for sustaining the local sea cucumber fishery.

10. Please share links to papers, reports, or other media:

<http://cogeron.ird.nc/>

<http://www.nautiliemovie.nc/documentaire-cogérons-le-lagon/>

<https://www.ird.fr/la-mediatheque/videos-en-ligne-canal-ird/dans-un-esprit-de-cogestion>

<https://www.ird.fr/la-mediatheque/videos-en-ligne-canal-ird/des-recifs-et-des-hommes/le-crabe-de-paletuvier-gestion-participative-d-une-ressource>

<http://www.coastalcura.ca/documents/LeopoldSecured.pdf>

<http://www.documentation.ird.fr/hor/fdi:010059343>

<http://www.documentation.ird.fr/hor/fdi:010054824>

<http://www.documentation.ird.fr/hor/fdi:010046219>

<http://www.documentation.ird.fr/hor/fdi:010050848>

<http://www.documentation.ird.fr/hor/fdi:010059037>

11. Other information (such as difficulty or success in implementing the transdisciplinary approach):

Overall transdisciplinary research proved achievable and useful for mobilizing knowledge although this approach was challenging and time consuming. This approach involved scientists of different disciplines and may not be achievable in all cases due to budget limitations and/or limited local research capacity. However some small-scale fisheries issues may require more limited inputs from certain disciplines compared to those of the present case study. This example illustrates how the philosophy of transdisciplinary research has been translated into action.