BIOMOT

Motivational strength of ecosystem services and alternative ways to express the value of biodiversity

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Effective research for biodiversity action

The issue

In spite of all policy efforts, biodiversity in Europe is still declining. As one type of remedy, there is a growing consensus that biodiversity policies should be more participatory and that scientific research that aims to underpin biodiversity action should pay more attention to stakeholders and the social context in which the action is planned to take place. Yet in practice, biodiversity research is still far removed from adopting an approach that moves beyond technocratic, expert-driven studies and policy advice. Our assumption is that this state of affairs is at least partially caused by the fact that (1) researchers often do not know **what it means to actually do 'participatory' or 'transdisciplinary' research** and (2) often there is a lack of fit between existing policies and bottom-up, participatory actions for biodiversity.
In this policy brief, we address this challenge, based on the FP7 project BIOMOT.

Relevance of the issue

Participatory research can make a huge contribution to the effectiveness of biodiversity policy. We give three well documented examples:

- In Finland, top-down protection measures for the Golden Eagle resulted in conflicts amongst the social actors. These were only successfully overcome only by a policy innovation based on multi-stakeholder involvement in the research and monitoring of nesting sites and acceptable management practices by the key social actors.
- In the US, top down "ivory tower" research in the 1990s on the management of the Everglades natural area in Florida, led to neglecting the social dynamics of farmers and tourism operators in the area, with extremely costly management mistakes as the outcome.
- In Belgium, much money was spent on intensifying biodiversity actions in smallholder forests by volunteers by adding economic rewards to their incentives. Open, social-scientific research showed that roughly, projects to which monetary rewards were added performed *less* than before; which led the policy makers to change their strategy. In other words, the strong paradigm of economics is in dire need to be tested in real-world, stakeholder-based research.

The other way: transdisciplinary research

As shown through the in-depth analysis of successful approaches to biodiversity in BIOMOT, what is mostly needed for sustainability research are interdisciplinary practices combining natural science research with analysis of social practices and an explicit discussion of the ethical orientations that underline the scientific frameworks.

This proposition is building on recommendations from successful practices, also substantiated by a large body of literature, focusing on participatory and transdisciplinary modes of research (Popa et al., 2014). Although an open and still evolving concept, such a transdisciplinary approach implies a **close articulation of scientific expertise and knowledge from the relevant social actors and practitioners throughout the research cycle and the linking of scientific problem framing with the societal problems from the very beginning.**

Transdisciplinarity: Four principles for practice

To make this proposition concrete, we give four principles for successful transdisciplinary research, based on the literature and the BIOMOT experiences.

1. **Description plus transformation**. Research for biodiversity action should not be confined to the analysis of ecological or socio-ecological systems (biodiversity, landscape, ecosystem services, culture etc.). Descriptive analysis should be combined with a transformative analysis of social practices and transition pathways. This implies that possible courses of action are taken up as part and parcel of the research, in a reflective mode that allows the social actors (and the researchers, too) to adapt their own perspectives and build social capital for change.
2. **Empirical and reflective paradigms in interaction**. Economics, ecology, social psychology are typically based on strong ideas about the empirical world ('paradigms'). For successful transdisciplinary research, researchers should first of all soften these paradigms in a reflective manner, becoming aware of their limitations and opening up to criticisms. The BIOMOT experience shows that as a discipline, philosophy is especially good to help bring about this reflective background. One example is that philosophy can bring a method and the language to understand that people act for more goals than happiness (consumption); people also act to have a worthwhile life, which is more than a long string of happy moments.
3. **Explicit discussion of environmental ethics within the research framework**. People are strongly 'contextual', which is to say that their responses to research questions depend much on the value-laden goals behind the questions put to them. This implies that in research for biodiversity action, explicitly addressing critical ethical viewpoints, e.g. focusing on strong sustainability, intrinsic values or stewardship for future generations, can help the interviewees to discover and collectively better construct their own viewpoints beyond the 'correct' answers. This feeds back into the research too, because it will challenge the assumptions implicit in our own models and in this manner make science aware of its own value-laden traditions and practices.
4. **Connectedness with the social actors**. Ecology will remain a science of uncertainty for many decades to come, and the future of biodiversity actions will remain even more uncertain, embedded as it is in ever-changing societal contexts. This implies that the sustainability of success in biodiversity action will rely much on the degree to which social actors have accepted and internalized research outcomes, regarding them as their own performance and their own property rather than of the researchers. Such robust and internalized knowledge can only be produced when research maintains a close fit with the social actors' own visions, experiences and pre-existing knowledge.

Within the BIOMOT project, the EU wide analysis of cases has shown the importance of these 4 principles for effective biodiversity research. To tackle the persisting biodiversity decline in the EU, there is thereforean urgent need to build a new layer of participatory and transdisciplinary research on top of the existing research infrastructure.

< The research underlying this policy brief can be found on the BIOMOT website: www.biomotivation.eu.

< Cited BIOMOT publications:

- Popa, F., M. Guillermin and T. Dedeurwaerdere 2014. A pragmatist approach to transdisciplinarity in sustainability research *Futures*.