

In the ongoing struggle against the global loss of biodiversity, **Rob Bugter** outlines the efforts of an international consortium to develop a web-based tool that provides guidance on alternative arguments supporting environmental protection

An effective argument



Could you begin by outlining some of the ways that the 'Biodiversity and Ecosystem Services: Arguments for our Future Environment' (BESAFE) project is examining environmental policy decisions and governance at multiple levels?

BESAFE will examine environmental policy decisions in 12 case studies spread over three governance levels; local, national and global. Once complete, we can then investigate if there are differences in the use of specific arguments and in their effectiveness depending on the governance level. These arguments and their efficacy are mainly identified through policy and discourse analysis.

The idea is that BESAFE's results will help to improve environmental policy decisions and governance through two main channels. On the one hand, we aim to provide policy makers with better insight into why biodiversity deserves protection, and on the other, inform them of the most effective arguments for their specific situation.

How will the results from your case studies be deployed?

The results from our studies will be analysed for general trends and then published in scientific and policy papers. They will also be utilised in the development of our web toolkit and database, where we hope to use these trends for the fundamental web-tool structure; giving specific case study situations and arguments as examples.

Could you describe the main features of this web-based database and the toolkit that the consortium will develop? In your opinion, how effective will they be?

We will develop the database and toolkit in close cooperation with stakeholders to ensure we create a user-friendly product.

At this point in time, the specificities of the main features are therefore not known. However, the general idea is that the web toolkit should be able to 'profile' stakeholders and their particular issue and then match it with the most effective arguments and examples from the database.

The main purpose of both the web tool and database will be to demonstrate how the effectiveness of different argument types can vary between governance levels. This may prove influential in conservation policy development and will help to define future research requirements.

What are the major challenges associated with a project of this scope?

There are a huge number of factors that can influence the effectiveness of biodiversity arguments in general and the relative efficacy of different types of arguments in particular. Moreover, our first review results show that the use and modification of arguments is often a

very diffuse process. Our first major challenge is therefore to develop a method that will allow us to register and analyse arguments in a consistent and reproducible way.

When discussing the efficacy of arguments for convincing policy makers to take action, it must be realised that there are always two interested parties involved in the process: those attempting to convince (senders) and those in need of convincing (receivers).

To analyse the (effectiveness of) communication, which is an important factor in determining the value of an argument, one must understand what the senders intended to accomplish with it, but, more importantly, how the receivers have interpreted it and why they did or did not act on the information provided. This strongly depends on the receiver's knowledge and situation.

The next challenge is to identify general trends from our limited number of cases. Finally, the greatest challenge is to ensure our stakeholders are fully involved so that the web tool is tailored to give them easy access to the information that is best-suited for their situation.

What values are currently attributed to ecosystem services and how can the price of these services be measured appropriately?

The problem many people have with ecosystem services being used as an argument for biodiversity protection is that there is a tendency to rely on monetary value to express worth. The fear many have is that this will lead to an unbalanced protection of biodiversity that supports provisioning services with recognised economic value, whilst disregarding those less easily linked to profit. We therefore hope to change this by addressing the value of ecosystem services and the biodiversity that supports them in a much broader context.

Towards better biodiversity policy

Policy makers are key to reversing the current and growing loss of biodiversity. The **BESAFE** consortium aims to inform the policy process by providing users with guidance on the effectiveness of arguments for biodiversity conservation in a variety of contexts

BIODIVERSITY MAKES OUR planet habitable and beautiful. We depend on it for the food, energy, raw materials, air and water that make life possible and drive our economy. Over the last 25 years the EU has built up a vast network of protected areas in all the Member States with an area of more than 750,000 km², 18 per cent of the EU's land area (EC DG Environment). Nevertheless, biodiversity loss has accelerated to an unprecedented level, both in Europe and worldwide. It has been estimated that the current global extinction rate is 1,000 to 10,000 times higher than the natural background extinction rate.

Rob Bugter, based at Alterra in The Netherlands, hopes that the Biodiversity and Ecosystem Services: Arguments for our Future Environment (BESAFE) consortium that he coordinates can help to change this situation by providing a framework that allows the value of biodiversity to be more effectively communicated to policy makers.

ECOSYSTEM SERVICES

A 1997 Food and Agriculture Organization study estimated that approximately 40-50 per cent of Earth's ice-free land surface had been heavily transformed or degraded by human activities. It also calculated that 66 per cent of marine fisheries were either overexploited or at their limit. Since then, these figures have deteriorated further. As humankind heavily depends on the remaining biodiversity to drive sectors like agriculture and fishery, its successful preservation is now widely recognised as a major dilemma facing humankind. Not succeeding could not only have dire consequences for our wellbeing, but also for our survival.

Ecosystem services are the benefits that people obtain from ecosystems. They support, directly or indirectly, our survival and quality of life. Some ecosystem services are well known, such as those which are essential for life (eg. food, clean air and water) or those which improve our quality of life (eg. recreation, beautiful landscapes). Other services are often taken for granted (eg.

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pollination, flood regulation). The Millennium Ecosystem Assessment (MA) conducted an extensive scientific review between 2001 and 2005 on global ecosystem services (www.millenniumassessment.org). The Assessment concluded that 60 per cent of ecosystem services are being degraded or used unsustainably, often resulting in significant harm to human wellbeing. They categorised ecosystem services into four classes:

- Provisioning services: the products obtained from ecosystems, such as food, water, fuel and materials for building
- Regulating services: the benefits obtained from the regulation of natural processes, such as air quality regulation, climate regulation, water/flood regulation, disease and pest control, pollination and water purification
- Cultural services: non-material benefits like spiritual enrichment, recreation and aesthetic enjoyment
- Supporting services, such as soil formation, photosynthesis and nutrient and water cycling, which support all other ecosystem services

BESAFE

Too often in the past, engagement with policy makers has been inefficient and ineffective. A key problem is that decisions affecting biodiversity are made in many sectors – it's not just about conservation policy. Many decision makers are not sufficiently aware of the impacts on biodiversity – and equally unaware of the extent to which their sectors depend on healthy biodiversity. The main objective of the BESAFE consortium, comprised of 15 institutions from 13 European countries, is to enhance the protection of biodiversity within policy across all sectors by better communicating its true value.

Bugter outlines how they hope to change the present paradigm: "We can better engage with policy makers if we know what they truly value and what factors they consider in deciding what to support. This will, of course, depend on the economic, environmental and social context in which decisions are taken". He continues: "Thus, we will investigate the effect of such factors and identify which arguments will work best in specific situations".

The ultimate goal for the group will be the development of a user-friendly online database and toolkit that will guide initiation of tailored policies in various contexts. The toolkit will be grounded in sound evidence, starting from the compilation of 12 in-depth case studies across multiple governance levels: global, national and local.

The results of these case studies will be analysed for specific trends that will allow the team to assess the transferability of arguments across scales. Bugter highlights: "We will take the influence of the other scale levels into account and will specifically examine case studies that

span several levels, in order to explore how global and EU-level policies can be better linked to the lower governance levels, and how the communication and translation of the aims and benefits of protection can be improved".

There is concern that economic arguments diminish the consideration of factors less easily expressed in monetary terms

From this analysis, the BESAFE team hopes to gain invaluable insight into the effectiveness of arguments. One component of this is an investigation of how individual policy makers value biodiversity, and how this is influenced by their awareness of ecosystem services. Ecosystem services are now a significant component within many policy-making decisions, as a result of both economic valuations of ecosystem services as developed by the UNFCCC (see p45) and the need to better protect biodiversity. But there is concern that economic arguments diminish the consideration of factors less easily expressed in monetary terms. BESAFE will therefore also assess the effectiveness of arguments based on other values like moral, spiritual, aesthetic or intrinsic ones.

A major problem is rooted in the ambiguous nature of communication. Bugter and his team realise that the efficacy of communication is reliant on all the participants: their own personal circumstances, knowledge, world views, roles and powers, and how these interact within the decision process. This presents its own set of challenges for the group: "The consequence is that an undoubtedly correct argument such as 'the biodiversity of nature reserve x is unique' might not be given any value, while the argument that 'failing to protect it will cause us great international embarrassment' could well work," Bugter highlights. "It depends on who is involved in the decision, and what their priorities are."

FUTURE DIRECTIONS

Our dependence on Earth's ecosystems for essential services and the speed at which we have compromised many of them makes the urgency of protecting them a global priority. Researchers are now realising that the best way to reverse this trend is through the creation and enforcement of policies to conserve biodiversity through a wide range of land use management practices.

Through the development of their toolkit and database, the BESAFE consortium hopes to provide users with an effective method of appealing to policy makers and kick start a new field of research: "We hope that this project will just be the start of further research and tool development for the effective use of arguments in biodiversity protection," Bugter concludes.

INTELLIGENCE

BESAFE

BIODIVERSITY AND ECOSYSTEM SERVICES: ARGUMENTS FOR OUR FUTURE ENVIRONMENT

OBJECTIVES

BESAFE will consider the contribution that ecosystem services and other types of arguments can make in demonstrating the importance of biodiversity. The results will be used to produce a framework that will give guidance on the effectiveness of alternative arguments and protection strategies in various contexts.

PARTNERS

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