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The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and the challenge of integrating social sciences and humanities

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Abstract. For the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), established in 2012, under the auspices of four United Nations entities (FAO, UNDP, UNEP and UNESCO), there is an urgent need to engage scholars in social sciences and humanities in assessing the state of the planet's biodiversity. This article addresses the fundaments for involving scientists from these fields of science in IPBES, and reflects on the existing barriers. It builds on previous research on IPBES from various perspectives, as well as on the author's insights from work in the organization. A fundamental condition recognized is that there needs to be a qualified understanding of what it means to integrate natural sciences and social sciences/humanities, and also that the latter have to be accepted on their own terms. Other barriers are related to the contextualisation of biodiversity issues and the more politically sensitive character of research carried out in social sciences and humanities. In the conclusions it is emphasized that the deliverables of the first round of IPBES assessments have to be solid enough from the perspectives of social sciences and humanities, in order to attract more of these scholars to work for the platform in the future.

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1. Introduction

In the evolving activities at the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), a young sister to the Intergovernmental Panel on Climate Change (IPCC), there is a strong call for the engagement of social scientists in assessing the state of the planet's biodiversity, its ecosystems and the essential benefits they provide to humans (IPBES, 2015; Montana, Borie, 2015). Human activities are the dominant driver of changes in biodiversity, with implications for the benefits of nature to people and to the quality of life for humans. Hence, recognizing the inseparable unity of nature and human culture, an integrative approach is needed. Moreover, an integrative approach is even more crucial when considering that the mission is not only to fulfil the goals stated in the Convention of Biological Diversity (CBD) (UN, 1992), but also in the Sustainable Development Goals adopted by the 193 member states of the UN in September 2015 (Watson, 2005; UN, 2015). Disciplines that deal with values in various ways, landscape management, governance, human behaviour and understanding of humans' relationship to nature, power, equity, etc. are of vital importance for exploring and enhancing sustainable use and conservation of biological diversity (Carmen et al., 2015; Vohland et al., 2011). With 'Quality of life' in a core position in the conceptual framework of the platform, and also with drivers and institutional settings as key issues in that framework, researchers from social sciences and humanities appear to be indispensable in this global initiative that addresses the accelerating global losses of species, genetic diversity, ecosystems as well as of ecosystem functions and their implications for human well-being (Díaz et al., 2015).

Despite the well-recognized need for engaging scholars in social sciences and humanities in IPBES there is still a notable deficiency in this respect in leading functions (cf. Montana, Borie, 2015) as a result of the lack of authors nominated for working with the various IPBES assessments. Due to the platform's historical roots in biology-dominated fora, the settings for the platform are somewhat natural science-biased (Granjou et al., 2013; Vadrot 2014). Consequently, there are certain challenges following the integrative ambitions, as it involves basic ontological and epistemological considerations, such as how we understand the world, what knowledge is, and the role of science. Hence, the challenges seem to be a greater challenge than might first have been perceived.

The challenges, related to the ambitions to bring in more experts from disciplines within social sciences and humanities, are well recognized in sustainability and environmental management research, and have parallels in numerous initiatives of various sizes (e.g. David, 2015). Hence, IPBES serves as an interesting case for exploring and bringing more clarity to why there are difficulties in involving scholars from social sciences and humanities, and how to proceed in order to successfully engage a wider set of competences. The article addresses fundamental prerequisites for improving the disciplinary balance in IPBES, and reflects on the barriers that exist. It has the character of a perspective article, and builds on previous research on IPBES from various angles as well as on my own insights from work in IPBES as a member and co-chair of IPBES Multidisciplinary Expert Panel, since January 2015.

In the following chapter, I begin by giving a brief overview of IPBES, its history, organization and on-going work. Then, features for integrating social sciences and humanities are elaborated. The article is drawn to a close with some suggestions of possible ways forward. Notwithstanding that the term 'social sciences' is most often used when the deficiency addressed is discussed in IPBES, I have chosen to consistently broaden it to 'social sciences and humanities' in the article, since that is, in my understanding, a more correct way of framing the kind of science in view.

2. What is IPBES?

IPBES emanates from global concerns about the loss of biodiversity, and initiatives taken during the last decades (Larigauderie, Mooney, 2010). The survival of humankind is directly dependent on the diversity of biological resources for food and medicines. A loss of biodiversity, however, affects our quality of life, as well as the ecosystems on which humans are dependent for their welfare. One could also claim ethical motives for conservation and sus-

tainable use of biodiversity, implying that we have a responsibility both for our environment in its own right and for future generations. At the United Nations Conference on Environment and Development (UNCED) or Earth Summit, in Rio in 1992, the CBD was agreed as a global commitment to conserve biodiversity, seek sustainable use of its components and also fair and equitable sharing of benefits arising from genetic resources (UN 1992). Since then, work with the convention has been developing, and in 2010, the Strategic Plan for Biodiversity 2011––2020, with its 20 Aichi Biodiversity Targets for the period 2011–2020 was adopted, following the failure to meet the 2010 Biodiversity Target, to halt the decline of biodiversity by 2010. The Aichi targets are sorted into 5 strategic goals, which also recognize the critical links between biodiversity and sustainable development in a wider sense (UNEP 2010). After a number of attempts to find ways to scientifically approach the overall objectives of the CBD (Larigauderie, Mooney, 2010), IPBES was established in April 2012 as an intergovernmental body under the auspices of UNEP, UNESCO, FAO and UNDP. It is open to all member countries of the UN, and in December 2015, 124 countries had become members of IPBES. The overall objective of the platform is "to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human wellbeing and sustainable development" (UNEP 2012). IPBES has four interconnected functions (Larigauderie, Mooney, 2010): (a) identify knowledge needs of policymakers, and catalyse efforts to generate new knowledge; (b) deliver global, regional and thematic assessments, and promote and catalyse support for sub-global assessment; (c) identify policy-relevant tools/methodologies, facilitate their use, and promote and catalyse their further development; (d) prioritize key capacity building needs, and provide and call for financial and other support for priority needs. While the second function, focused on assessments, receives the most attention, the three other functions represent important components of the work programme of IPBES.

2.1. Organization and work programme

The overall decision-making body of IPBES is the Plenary, an annual meeting for all members of the platform, and also open for states that are not members, UN bodies, governmental and non-governmental organizations to participate as observers. There are two subsidiary bodies to the plenary to facilitate the operations of the platform: the Bureau with 10 officers that oversees administrative functions, and the Multidisciplinary Expert Panel (MEP) of 25 members, which carries out scientific and technical supervision. There are currently 12 expert groups and task forces engaged in the implementation of the first work programme, whose work generally results in reports or web-based tools for the implementation of IPBES functions.

The plenary has adopted a work programme for the period 2014–2018, to harmonise with the year of intended fulfilment of the Aichi targets (Fig. 1). The work programme builds on the following four objectives, for which a number of deliverables are planned (UNEP, 2014, see also Fig. 1): (a) strengthen the capacity and knowledge foundations of the science-policy interface to implement key functions of the Platform; (b) strengthen the science-policy interface on biodiversity and ecosystem services at and across subregional, regional and global levels; (c) strengthen the science-policy interface on biodiversity and ecosystem services with regard to thematic and methodological issues; (d) communicate and evaluate platform activities, deliverables and findings.

The core work of IPBES is to deliver thematic, global and regional assessments (See Fig. 1, deliverables 2b, 2c and 3b). At the fourth plenary in February 2016 (IPBES-4), the two first assessments were approved, one on pollinators, pollination, pollinators and food production, and the other on scenarios and models of biodiversity and ecosystem services. Five on-going assessments are planned to be delivered in 2018 (four regional ones, covering Africa, the Americas, Asia Pacific, and Europe and Central Asia, and a thematic one on land degradation and restoration). Moreover, an overall global assessment will start in August 2016, and is to be delivered in 2019, in time to make a significant contribution to the reporting requirements of the CBD vis-à-vis the 20 Aichi Targets. Three more assessments are planned (Invasive alien species, Sustainable use of biodiversity and a methodological assessment of the diverse conceptualization of multiple values) (IPBES, 2016b). All assessments are

carried out in response to a request from the 124 member countries of IPBES. Each assessment gathers 40-120 experts, and the final outcomes of their work are assessments of the state of knowledge within the area of concern, accompanied by a short summary for policy makers.

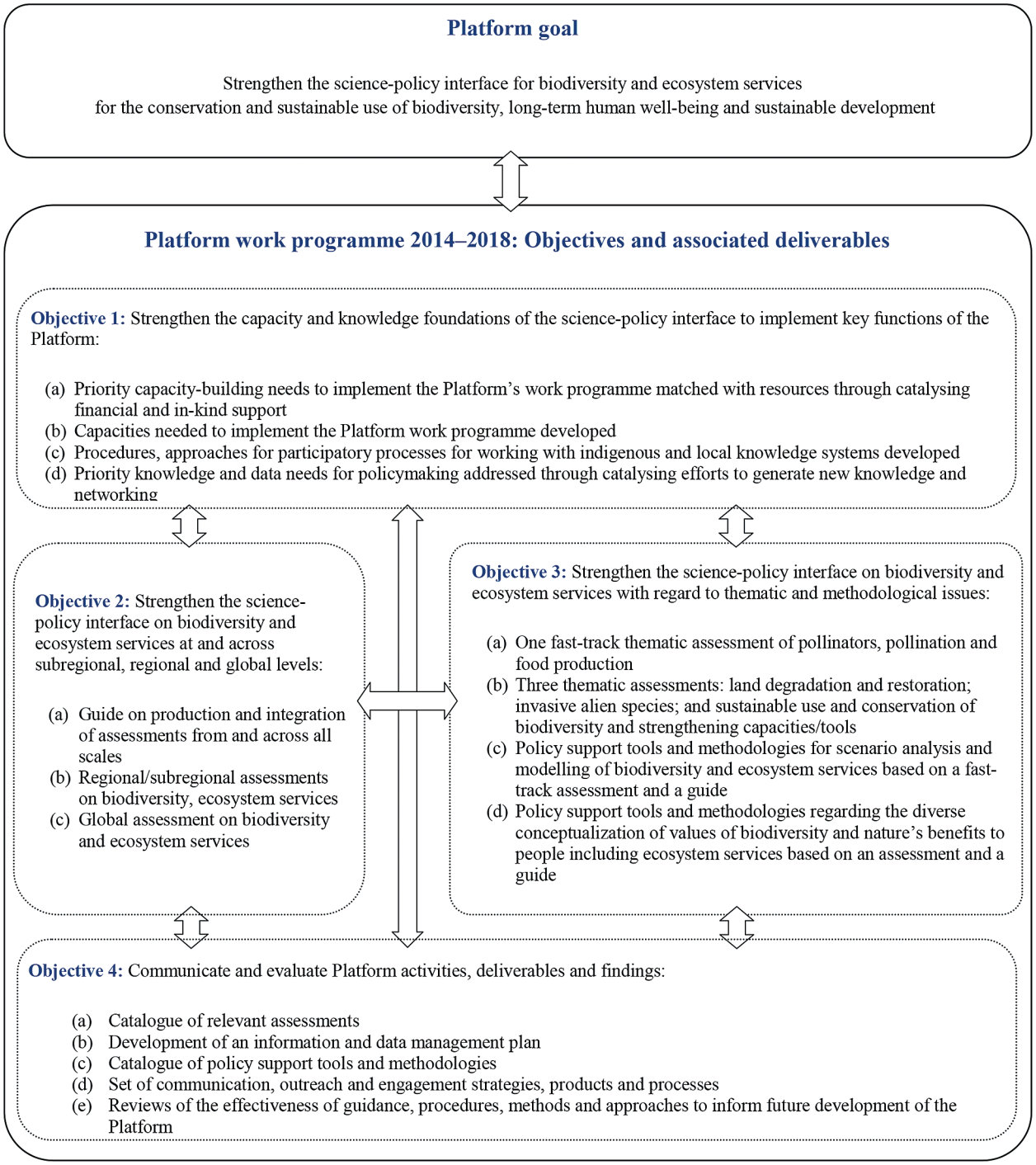

Fig. 1. IPBES working programme 2014–18 and associated deliverables

Source: UNEP 2014

In the process of developing this first work programme, a Conceptual Framework has been constructed (Fig. 2). It is a simplified model of the relationships between people and "nature", con-

structed with the aim to obtain coherence in regard to the key concepts and their relationships in all work driven by the platform. The key components in the framework are *nature*, *nature's benefits to people* and *good quality of life*. It shows the central role of institutions and governance, and how that relates to drivers of change. Importantly, the conceptual framework is very consciously drawn to be inclusive to multiple knowledge systems. In IPBES, it is commonly described by the two labels 'Western science' and 'other knowledge systems', where the latter particularly indicates indigenous and local knowledge (Díaz et al., 2015; cf. Beck et al., 2014; Borie, Hulme, 2015).

IPBES is administered on a daily basis by a secretariat, led by an executive secretary hosted by Germany in Bonn. In addition, all assessments, expert groups and task forces are assisted by technical support units (TSU). The whole organization is entirely financed by donations from the member states to a trust fund. The staff members at the secretariat and the TSU are employees. The work performed by experts around the world for IPBES is unpaid. Experts from developing countries receive funding from IPBES to cover their travelling expenses to attend IPBES meetings, while experts from developed countries have to raise funds to attend IPBES meetings, from their governments, their home institution, or other sources.

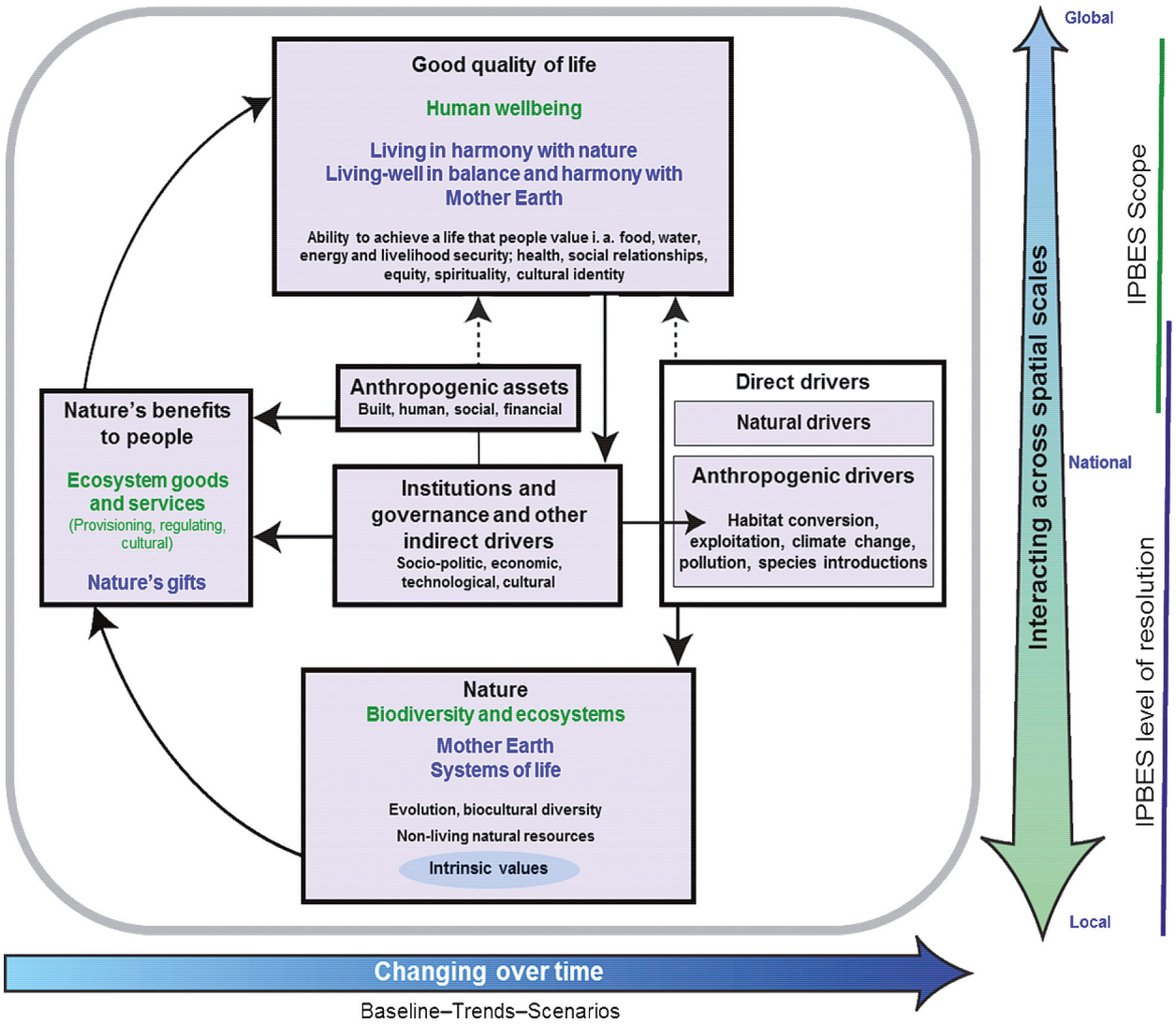

Fig. 2. IPBES conceptual framework

Source: UNEP 2014

2.2. Prospects for IPBES

The obvious and explicit intention of IPBES is to make it the leading body for "assessing the state of the planet's biodiversity, its ecosystems and the essential services they provide to society" (IPBES, 2015). In order to come to grips with the alarming loss of biodiversity and important ecosystem functions, the initiative has certainly an urgent mission, and there are a number of qualities and strengths in IPBES that speak for success in its endeavour. One is the broad commitment to IPBES. The platform is firmly anchored in four UN bodies. Added to that is the engagement of numerous influential organizations and bodies in the field of biodiversity and ecosystems, e.g. International Council for Science (ICSU), Society for Conservation Biology and International Union for Conservation of Nature (IUCN). Secondly, there is a high degree of competence in the organization. IPCC has been used as a role model, and a number of the key actors in IPBES have been deeply involved in the climate panel. Notwithstanding that there are significant differences between the two bodies, it has to be regarded as an advantage in terms of experience from the IPCC feeding into the on-going work of IPBES (Larigauderie, Mooney, 2010; Brooks et al., 2014). Thirdly, for the long-term success, IPBES has taken very seriously the science-policy interface, with considerable efforts dedicated to the task of capacity building and also the development of a catalogue of policy support tools (See Work programme in figure 2, specifically deliverable 1a, b, d and 4 c.).

There are, however, a number of challenges to overcome in order to have similar legitimacy and influence in biodiversity issues as the IPCC has in climate issues. One is the ability to continue to attract excellent and respected researchers, representing a diversity of disciplines; another one is to raise the funding needed in order to complete the tasks set up in the work programme. A third challenge is to succeed with the explicit and pronounced ambitions to integrate indigenous and local knowledge (ILK) with scientific knowledge in the assessments (See Work programme in figure 1, deliverable 1c). The rather tight time schedule in IPBES is especially problematic when it comes to addressing complex issues, such as integrating ILK with science (Turnhout et al., 2013). To these challenges can be added the integration of humanities and social sciences, an issue that will be elaborated in detail next.

3. Challenges related to the integration of social sciences and humanities

The integration of social sciences and humanities is, as shown earlier, necessary in order to address the broad scope of IPBES. The overall goal of the platform, 'the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development' (UNEP, 2012), includes a number of terms concerning societal activities and human perceptions – conservation, use, human wellbeing, sustainable development – that require qualified competence on humans and human society in order to be satisfyingly elaborated. 'Good quality of life', one of the main components in the IPBES conceptual framework, is defined as "the achievement of a fulfilled human life" (Díaz, 2015: 7), and related to material components such as access to food and water, as well as to non-material ones such as livelihood security, good social relationships, equity and freedom of choice and action. It is further recognized that what 'Good quality of life' entails is to a significant degree context-dependent and may vary greatly across different societies and groups within societies. Hence, 'Good quality of life' could, in the context of IPBES, be understood as human demands on 'nature' (cf. Borie, Hulme. 2015).

Since knowledge developed in social sciences and humanities is crucial to the work of IPBES in a number of ways, how come there is a dearth of IPBES experts doing these kinds of research, and how can the situation be improved? First, the IPBES process, thus far, has faced a couple of practical complications when it comes to the integration of social sciences and humanities. One basic problem has been to reach scholars in these fields of research. While the channels from the political and administrative sphere to scholars in ecology are well established in the field of biodiversity, the subject is but one of many in social sciences and humanities. Moreover, networks on landscape planning, demography, security, spiritual values, equity, future studies, etc. have yet to be better addressed. Sec-

ondly, it has to be attractive for researchers from social sciences and humanities to join IPBES. For that reason, it is vital that IPBES appears to be sincere in its integrating ambitions, showing that various disciplines and approaches are understood and included in their own terms, and that respectful collaboration can be foreseen.

A fundamental condition for respectful collaboration is that there is a qualified understanding of what it means to integrate natural sciences and social sciences/humanities (Head, Stenseke, 2014). One key condition for further progress with the coalescence of different approaches to research on biodiversity is the acceptance of the fact that there are critical differences between natural sciences on the one hand, and social sciences and the humanities on the other (Myrdal, 2009). These differences imply, inter alia, that interdisciplinarity cannot be solved by claiming a "holistic view", or "systems approach" if the design of IPBES assignments is based on approaches, analytical concepts and methods used in natural sciences, as to some degree is the case at present (Granjou et al., 2013). This refers especially to qualitative research in social sciences and humanities. The contribution of quantitative social science methods is more easily accepted within a framework dominated by the natural sciences. Research approaches based on qualitative methods, including discourse analysis, ethnography, participant observation and in-depth interviews, usually require more explanation and defence (Head et al., 2005). Misplaced expectations of qualitative research, e.g. that research will result in neat instrumental policy outcomes rather than a more diverse conceptual contribution (Amara et al., 2004), have often impeded productive conversations between social and natural scientists in interdisciplinary initiatives (Gill, 2006), and social scientists have found themselves being 'tacked on' to environmental management bureaucracies dominated by natural science models, despite some good intentions (Roughley, 2005).

What often distinguishes a social science approach from a natural science one in research fields such as biodiversity is placing the issue in a broader societal context (Head, Stenseke, 2014). Insights regarding how the discourse on biodiversity can be seen in various historical and societal contexts, and considering aspects such as power structures and knowledge acquisitions help to reflect on biases in features taken for granted and to critically assess measurement methods and analytical concepts used. Among crucial research topics are perceptions of 'nature', concepts and images, value systems, knowledge and learning, commitment, use, economic benefits, and health and welfare aspects associated with biological diversity. Also important is research aiming to clarify the complex and dynamic social contexts, including the use of natural resources and their impact on flora and fauna, which are crucial in the long term for the conservation and use of biological diversity. Furthermore, for the management of biodiversity, research on societal strategies for conservation and sustainable use is vital, i.e., the basic questions concerning management structures and organization, democracy aspects, decision processes, legal, economic and communicative instruments, physical planning, actors and various forms of collaboration, communication and links between biodiversity and other societal issues such as local and regional development, recreation and mobility.

One consequence of the different way of framing and contextualising issues concerned in IPBES is that far from all biodiversity-relevant research in social sciences and humanities is explicitly about reference units or concepts used by natural sciences, such as species and ecosystems. Instead, research in social sciences and humanities builds around other concepts, such as landscape, driving forces, institutions, conflicts, livelihoods, etc. It also means that IPBES relevant experts in social sciences and humanities are not necessarily related to specific species or ecosystems (e.g. freshwater, ocean, terrestrial), but to theories and approaches that can be carried out in marine areas as well as in mountain areas, for example. This is the case when it comes to, for example, participation, co-management and power structures. As for concepts, a number of researchers analysing the IPBES process have highlighted the difficulties associated with the 'ecosystem services' concept, which is included in the very name of the platform. (e.g. Vadrot, 2014; Borie, Hulme, 2015; Carmen et al., 2015). One overarching critique concerns the neoliberal paradigm within which the concept is situated, and the measurability that 'ecosystem services' signal, leaving little space for other ways of valuing (Turnhout et al., 2013). An expert group, assigned to develop an

IPBES approach to diverse conceptualizations of values, is addressing this issue in depth. This expert group, an IPBES group including a majority of experts coming from social sciences and humanities, has delivered a guide to be used by the experts in the IPBES assessments, *Preliminary guide regarding diverse conceptualization of multiple values of nature and its benefits, including biodiversity and ecosystem services and functions* (IPBES, 2016a, See Fig. 1, Deliverable 3d in the Work programme).

Another feature to be acknowledged is the wide diversity of approaches and methods within the fields of social sciences and humanities, implying that there are no joint logics, and, hence, that results from different research fields may be contradictory. Consequently, the research fronts are much more blurred than they commonly are in the natural sciences. This means that when striving for the accumulation of knowledge data in IPBES, and while pondering on establishing knowledge pools, it has to be recognized that much of social sciences and humanities comes out differently and, hence, needs to be handled differently (cf. Myrdal, 2009). With respect to this, the emphasis on modelling can potentially be problematic, since there is a rather strong quantitative approach and dominance of a kind of science that draws on large databases and advanced computer programmes (Granjou et al., 2013). It might, however, also be regarded as a stimulating scientific challenge to seek advancing interdisciplinary approaches and methods.

Another complicating issue relates to the stipulation that the IPBES deliverables must not be policy-prescriptive, i.e. the Platform should not tell the governments what to do but instead inform about various options and their consequences. Notwithstanding the importance for IPBES to be globally relevant, and, hence, speak to states with a great variation in governance, it has to be taken into account that qualitative environmental research does not necessarily sit easily with policy connections (Adger et al., 2012). Therefore, it is likely that a further inclusion of social sciences and humanities will make the research carried out appear more political. Even if it could be claimed that knowledge is always to some extent political, it has to be recognized that environmental research within social sciences and humanities concerns issues that are often intimately related to politically debated issues, governance and equity, for instance, when it comes to scenario constructions and policy studies. These phenomena could also be related to the emerging literature on post-politics, building on a critique against the politics of consensus on a global level (See e.g. Swyngedouw, 2009).

Interestingly, the ambition to include indigenous and local knowledge can possibly facilitate a wider awareness of the variety of worldviews and ways of knowing about the human-environment relations around the world, as well as of the less instrumental ways of understanding qualities of life and perceived values of species and ecosystems. It opens the way for a broadening of the understanding in the future work of IPBES, i.e. that it is not just 'remote people' that have other worldviews, but also 'we' and the people around us. Notably, the worldview also differs between scientists. Moreover, we are all in a sense local, and have bodily experiences of nature (Skår, 2010). In that understanding there are also promises that we might find modes for maintaining species and ecosystems within 'modern habits'. Important clues to how to adapt a modern society to sustainable use of biodiversity may exist, for example, in nature based leisure activities and in modern technology.

Lastly, the institutional barriers for entering IPBES are almost certainly more substantial for researchers in social sciences and humanities in general than for researchers in biology. A commitment to IPBES is less likely to be seen as being of merit for scholars in social science and humanities, working in a milieu with colleagues engaged in very different research fields. Consequently, it will probably be more difficult for them to gain permission from their departments and institutions to spend time and even still harder to obtain internal funding to do work in IPBES. One possible solution would be to establish funding possibilities on international and national levels.

4. Conclusions

It is well recognized that experts from social sciences and humanities are indispensable for the challenging work of IPBES that addresses the accelerating loss of biodiversity and of ecosystem

functions. Despite good intentions there is, however, a shortage of experts with these competences working with the various tasks of the platform. This is, to some extent, due to practical and administrative structures related to problems in reaching researchers outside biology to join IPBES. But there are also more complicated aspects concerning interdisciplinarity and knowledge integration that have to be considered if a broader range of scholars from social sciences and humanities is to be attracted. One key condition is the recognition of some critical differences between natural sciences and social sciences/humanities, particularly approaches based on qualitative research. This, then, will have consequences for how to look for, nominate and select experts for various tasks. Furthermore, it will most likely mean adjustments of approaches, concepts used and structures for handling knowledge and data. A somewhat contradictory conclusion is that while the conceptual framework of IPBES strongly motivates substantial engagement from social sciences and humanities, an increased engagement from experts in these fields of science might lead to a modification of the framework.

Importantly, an increased participation of scholars from social sciences and humanities will allow the work of IPBES on modelling to be boosted. There is a stimulating potential for IPBES to further develop and advance approaches to integrate or bridge quantitative and qualitative knowledge, such as scenario building. Moreover, a more successful integration of a wider range of competences will lead to further elaborations on how this kind of global initiative can provide results that are accepted and useful for manifold states with quite diverging governing systems, power structures and dogmas.

For the recruitment of more experts from social sciences and humanities in the future work of IPBES, it is crucial that the deliverables of the first work programme are of a high enough quality as seen by members of these fields of research. If assessments are performed without a sufficient emphasis on governance, valuation, human attitudes and societal drivers, it will undermine the relevance of the platform, and its attractiveness to the social science and humanities community. In IPBES, the need to become more attractive to social science and humanities is well acknowledged, and there is a commitment to get a stronger involvement of scholars from related disciplines and respectfully integrate contributions from these fields of research. There is also an awareness of the difficulty of doing so, with the limited number of experts that can articulate what this implies. One modest way to begin is to be explicit about imbalances and shortages of competences.

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