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|  | **Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services** | Distr.: General9 February 2017English only |

Plenary of the Intergovernmental Science-Policy

Platform on Biodiversity and Ecosystem Services

Fifth session

Bonn, Germany, 7–10 March 2017

Item 6 (d) of the provisional agenda[[1]](#footnote-1)\*

Work programme of the Platform: methodological
assessment regarding the diverse conceptualization of
multiple values of nature and its benefits

Workshop on relational values financed by the Ministry of the Environment of Japan and organized jointly by the United Nations Educational, Scientific and Cultural Organization and the Basque Centre for Climate Change

 Note by the secretariat

The annex to the present note sets out the outcome of a workshop on relational values held in San Sebastian, Spain, from 30 May to 1 June 2016. The workshop was financed by the Ministry of the Environment of Japan and organized jointly by the United Nations Educational, Scientific and Cultural Organization and the Basque Centre for Climate Change. The outcome of the workshop is made available to the Plenary for information purposes and is presented as received, without formal editing.

Annex

Workshop on relational values (San Sebastian, Spain, 30 May–1 June 2016)

In May-June 2016, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Basque Centre for Climate Change (BC3) convened a workshop on values, with a focus on relational values. The workshop was financed by the Ministry of the Environment of Japan. The workshop, co-organized by UNESCO and BC3, was held in San Sebastian, Spain, from 30 May to 1 June 2016. The workshop brought together 24 experts from all regions, including some members of the Multidisciplinary Expert Panel (MEP) of the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES), co-Chairs from the IPBES Global Assessment and several authors involved in various other IPBES deliverables. The workshop intended to contribute to ongoing deliverables of IPBES, including: Deliverable 2b (Regional/sub-regional assessments on biodiversity and ecosystem services); deliverable 2c (Global assessment on biodiversity and ecosystem services); deliverable (3c) (scenarios and modelling); deliverable 3d (policy support tools); and thematic assessments (e.g., on land degradation and restoration (3bi), and on sustainable use and conservation of biodiversity (3biii)).

The goal of the workshop was to provide new ground for strengthening the understanding and use of the concept of relational values in IPBES. One objective was thus to understand how relational values fit within the IPBES conceptual framework, and what implications their inclusion might have for the classification of nature’s contributions to people (Díaz et al., 2015). This document reports on various objectives of the workshop: (a) clarify what experts from different scientific disciplines and knowledge systems understand as relational values; (b) discuss how relational values might be mainstreamed into or instead developed as a complement to the current IPBES conceptual framework; (c) consider ways of ‘operationalizing’ relational values assessment (including measurement methods and choice of indicators given existing data availability in different social-ecological contexts and different types of knowledge systems); and (d) identify implications for IPBES assessments and other IPBES outputs and activities including capacity building and communication pertaining to relational values within IPBES and other national and regional initiatives.

This information document provides recommendations (developed by workshop participants) on how to understand and apply the notion of relational values from different knowledge systems and scholarly disciplinary lenses. The information about the workshop and its main results were communicated in the seventh meeting of the Multidisciplinary Expert Panel and Bureau, held from 6 to 10 June 2016 in Bonn, Germany.

I. Key Messages

1. Relational values refer to preferences, principles, and virtues associated with relationships, both between people and nature and among people through nature. Examples of relational values include practices such as transhumance and reverence for natural entities (e.g., millennial trees used as sites of decision making); principles such as justice and care; and virtues such as responsibility and respect towards people and nature.
2. The notion of relational values provides a novel framework for acknowledging a diverse suite of values and meanings that are consistently identified as important, but that fit awkwardly within a strict ‘producer-to-consumer’ framework of ecosystem services.
3. Addressing relational values is one way to fill an important gap in ecosystem services frameworks, e.g., those from the MA (2005) and IPBES (Díaz et. al. 2015). Within such frameworks, cultural ecosystem services is the broad label for the nonmaterial ways in which nature contribute to people’s good quality of life. This category of services, however, cannot fully capture the rich and varied ways in which people relate to nature.
4. Relational values are a different value type from instrumental and intrinsic values. The former is at the root of the concept of ecosystem services. The latter instead is associated with environmental ethics. Neither of these two familiar concepts of value adequately describe the richness of peoples’ diverse connections to nature (Chan et al 2016). This dichotomy (instrumental vs. intrinsic values) forces all reasoning into one category or the other. Thinking about so-called ‘nature’s contributions to people’ (including both, positive contributions, or benefits, *and* negative contributions, or detriments, drawbacks or harm) or ecosystem services needs to take account of values not encapsulated by the intrinsic and instrumental value dichotomy. The idea of relational values offers a new way to understand and communicate these different types of values, because they represent in a new light existing worldviews, hidden connections, conflicts, narratives, and complexity inherent in connections between humans and nature.
5. Analysis of relational values can be incorporated into multiple existing approaches to representing human-ecosystem connections. In social-ecological system analysis, for instance, relationships between human and non-human components of systems are fundamental. Indigenous approaches to understand human-nature relations provide another example: in many indigenous worldviews, kinship between human and non-human beings is central -- a crucial and much-discussed relationship. The relational values related to that kinship relationship are often deeply meaningful parts of indigenous cosmologies, and can affect many other relationships.
6. Relational values encapsulate, and may serve as markers and reminders of, many concepts central to the broader discourse on sustainability; these include, *inter alia*: stewardship; (re)defining a good quality of life, human well-being and related concepts, and sustaining the ‘right’ relations.
7. The scarcity of social sciences in IPBES has been recognized as one of its shortcomings; relational values can help to address this gap. While the ecosystem services approach is becoming more technically oriented – mapping, modeling, etc., relational values can bring to IPBES more qualitative sciences and core discussions about the diversity of values from multiple disciplines (e.g., anthropology, philosophy, human geography). This can enrich the science underpinning IPBES, and also create an important entry point for bridging science and other knowledge systems (such as ILK).

II. Full Report

A. Introduction

The conservation of biodiversity and ecosystem services has long been justified based on the instrumental and intrinsic values of nature. The concept of ecosystem services has been mostly associated with anthropocentric notions of utilitarian and preference-based instrumental values as instrumental values are generally linked to tangible goods and services that benefit society (Pascual et al., 2010; Chan et al., 2012). By contrast, other long-standing justifications for conservation are more bio-centric notions of nature’s worth in its own right – i.e., intrinsic values. These contrasting views have spurred an acrimonious debate over which approach is better; they are often seen as alternative rather than complementary views (Justus et al., 2009; Adams, 2014). A recent call for “inclusive conservation” suggested that we see them as complementary (Tallis and Lubchenco, 2014), but maintains the idea that these are *the* two relevant frameworks. A primary focus on these two notions of values, however, fails to resonate with the ways in which many people view their personal and collective well-being, and their ideas about ‘what is right,’ including, importantly, ‘what is right’ with respect to nature (Chan et al 2016).

This omission corresponds to the relational notion of values associated with nature (Chan et al, 2016). The framework of relational values arguably better captures how, many people conceive of reasons for environmental protection, their own well-being, and links between the two. ‘Relational values’ include many mainstream conservation principles, preferences, and virtues. But a key question that addressed in the workshop is what should this new way of thinking about values and the environment imply for research, nature protection and policy? How does a focus on relational values enrich the IPBES conceptual framework and associated thematic, regional and global assessments under the IPBES umbrella?

The workshop brought together leading thinkers regarding nature-human relationships and values to consider together how efforts might be amended—if at all—to realize the promise inherent in relational values. In so doing, it has provided an important input for IPBES and the broader community of scientists, via a new conceptual understanding and practical guide on relational values.

Current IPBES documents acknowledge with little elaboration the existence of relational values. These documents include the IPBES conceptual framework (Díaz et al 2015) and the preliminary guide to diverse conceptualization of multiple values of so-called ‘nature’s contributions to people’ (including both positive contributions, or benefits, and negative contributions, or detriments, drawbacks or harm)[[2]](#footnote-2) (IPBES, 2016). These deliverables also explicitly acknowledge the different paradigms or worldviews that lead to a diversity of human expressions of the value of biodiversity and ecosystem services, including anthropocentric (instrumental and relational values) and intrinsic (non-anthropocentric) values. In this way, it is suggested that relational values need to be part of any scoping study and assessments of values. It is also noted the importance of the methods selected to conduct valuation assessments; again, the framework of relational values helps to elucidate the relevance and importance of diverse methods of valuation.

The conceptual framework of IPBES identifies three inclusive elements in the interaction between human societies and the non-human world, among others: nature, nature’s benefits to people (which we now term nature's contributions to people), and a good quality of life (UNEP 2014; Díaz et al., 2015). In a recent development endorsed by the Multidisciplinary Expert Panel and based on broad feedback from IPBES, experts are developing the new categorization of ‘nature’s contributions to people’ (hereafter NCP). NCP are seen as the conduit between nature and a good quality of life. NCP resonates with the original use of the term ecosystem services in the MA (2005), and goes further by explicitly embracing concepts associated with other worldviews on human-nature relations and knowledge systems (e.g. *nature’s gifts* in many indigenous cultures).

The IPBES conceptual framework and the IPBES preliminary guide on values both consider and interpret relational values as those values associated with the meanings of relationships, including relationships between people and nature and between people within society through nature. These relational values are manifold and articulated by formal and informal institutions in different social‑ecological contexts. One type of relational values, so-called eudaimonistic values (i.e., those associated with a good life), include considerations of principles and virtues. These eudaimonistic values focus on actions and habits that are conducive to a meaningful and satisfying life; they are prominent across many cultural worldviews. Examples include Ubuntu in South Africa, the Gandhian Economy of Permanence in India, Buen Vivir in several Latin American countries, and North American ‘back to the land’ movements (Chan et al, 2016). Further, the IPBES guide on values (IPBDS, 2016) recognizes that there are so-called ‘relational worldviews’. In many cultures, indigenous and non-indigenous, it is understood that for all living beings, relationships are the foundations of personhood, society and culture and that maintaining the integrity of these relationships is essential to maintaining the integrity and stability of life in the world (IPBES, 2016).

The addition of relational values to IPBES frameworks can open a way to transform ecosystem services thinking: relational values can empower new ways of thinking about NCP as a conduit between nature and people’s good quality of life. However, as yet, both the IPBES conceptual framework and preliminary valuation guide offer little guidance about relational values. Notably, they do not yet address the implications of focusing on relational values– for IPBES assessment processes (including regional, global and thematic assessments) or for other deliverables (e.g., catalogue on policy tools and instruments). A focus on relational values would entail going beyond instrumental valuation methods, associated data needs and gaps, etc. A meaningful approach to relational values would enable IPBES and associated conservation, development and education programs to conceptualize and operationalize information about human-nature relationships in novel and potentially more effective ways.

B. Mainstreaming the diversity of values, including relational values, in the IPBES conceptual framework

Incorporating the concept of relational values entails addressing many complex, multi-faceted issues: the plurality of values and worldviews, the limitations of the ecosystem service framework, power inequities, and incommensurability of values, among others. IPBES recognizes that nature’s contributions to people (NCP) can embody both tangible and also importantly intangible or symbolic relationships with natural entities that are central to some people’s sense of identity and spirituality, which can fulfil human life (Pascual et al. *forthcoming*). It is through this main lens that IPBES considers that NCP are associated with relational values. Relational values infuse many types of NCP (both tangible/material and intangible/nonmaterial), but are particularly strong and central to nonmaterial NCP.

IPBES acknowledges that relational values reflect elements of cultural identity, social cohesion, social responsibility and moral responsibility towards nature (Diaz et al., 2015). Further, relational values are understood as not directly emanating from nature but deriving through relationships with and responsibilities towards it. Since cultural contexts and worldviews on human‑nature relations are diverse, the way values are incorporated into the conceptual framework of IPBES imply recognizing values as being perceived as intrinsic (nature), instrumental (NCP) and relational (NCP-good quality of life) –The terms in brackets refer to three key of the components of the conceptual framework of IPBES. The value of NCP are clearly anthropocentric and there is no clear‑cut distinction of which NCP are associated with instrumental values and which with relational values. It may well be the case that people have fluid, or diverse, value frames. For instance, food as NCP (e.g., provisioning ecosystem service) may be considered to be associated with both instrumental values and relational values since food in many cultures is connected to cultural identity.

It follows that a focus on NCP, as a more inclusive notion of ecosystem services that recognises relations with nature that go beyond instrumental ones, may still result in overlap between instrumental and relational values. While this may at first be seen as a problem, it may instead prove advantageous. It may more appropriately reflect upon the notion that values are constructs for representing the ways that something matters to people. The same “way of mattering” can be viewed differently by different people. It does suggest however, that relational values cannot be added on top of instrumental values (that could be double counting), but this may facilitate recognition that relational values cannot simply be summed. The blending of different knowledge systems and bridging western scientific disciplines thus seems a fruitful undertaking. As mentioned above, NCP values are necessarily fluid and sometimes cannot be parcelled into one category of value (e.g. instrumental or relational). It is likely also that such an approach to bridging instrumental and relational values could have important implications for adapting the conceptual framework of IPBES and ways of classifying NCP along the material to non-material NCP gradient.

C. Options for use of relational values in IPBES assessments:

Much research exists that provides ample inputs for potential ways to elicit and characterize relational values. Potential areas of study and practice that can offer information regarding elicitation mechanisms can be categorized as follows: (a) *Practice and empirical expression*, including spiritual and religious connections, interacting cultural and biological diversity, cultural landscapes, and citizen science; (b) *social movements* including food sovereignty and connecting communities to land – type of movements, etc.; (c) *Motivations* including nostalgia in relation to populations on the move, virtual relations, etc., and (d) *Theoretical approaches* dealing with, for example, actor-network theory, environmental ethics and social-ecological systems modelling.

In the context of IPBES assessments, information can be sought regarding dominant narratives about relational values and trends in terms of their expression through time, actors who participate in those narratives, and their spatial location (e.g., across different regions). Some considerations for setting an agenda towards future assessments of relational values may include:

1. Advance knowledge on how relational values relate to the IPBES conceptual framework and the intrinsic vs. instrumental values dichotomy.
2. Evaluate how relational values exists in different world regions, how multiple relational values might co-exist (including potential trade-offs and synergies among relational values), and how relational values change over time.
3. Evaluate the role of institutions (formal and informal) driving the strength or erosion of relational values in society.
4. Identify culture-rich narratives associated with relational values and identify other dominating narratives such as those associated with the green economy and inclusive economic growth under the prism of relational values
5. Recognize that relational values are complex, dynamic, and often derived from long‑standing perceptions and social norms that are culturally determined.
6. Identify ways for a relational values lens to restore social complexity within the IPBES framework which may potentially increase the demand for social scientists within IPBES.

D. Role and use of relational values in IPBES functions (capacity building, knowledge identification and generation, policy support tool development and communication)

1. **Capacity building**

IPBES has the mandate to raise awareness of nature (biodiversity), nature’s contributions to people (ecosystem services) and sustainability (well-being) in a broad sense across stakeholders, including scientists, policy makers, and society in general. Relational values provide the opportunity to do this by increasing the diversity of values and worldviews about human-nature relationships. This broadening would allow bridging worldviews that span western scientific knowledge and other knowledge systems, including ILK. For example, relational values offer a new way to understand different layers at the core of the global environmental crisis. When relational values are eroded, direct and indirect drivers based on institutions that do not favor such values take prominence with subsequent negative impacts on nature. Hence, better understanding how individuals and societies relate to nature beyond instrumental and intrinsic value frames, and by incorporating the idea of relational values might enhance our capacity to confront the sustainability challenge. It is thus important to build capacity to articulate and facilitate the expression of relational values at a range of spatial and social organization scales and cultures.

Social sciences can play an important role in valuation processes by implementing approaches that are based on narratives as heuristic tools to convey the complexity of the interactions across scales (space, time, social organization) which give rise to relational values. This can also serve to challenge dominating narratives about the instrumental vs. intrinsic values of nature against contrasting narratives that emerge from relational values and which can be catalyzed to foster greater responsibility-taking of global organizations, governments, corporations and other stakeholder groups towards nature, NCP and ultimately people’s good quality of life.

1. **Knowledge identification and catalyzing knowledge generation**

In order to move towards a sustainability vision we need to understand the full richness and evolving relationships with nature (and between people and within nature), which might include conflicts between people over natural entities, resources, etc. All of those diverse relationships express different values and value systems towards nature and NCP that are closely related to relational values and thus contribute in both tangible and non-tangible ways to people’s quality of life.

There are many areas within relational values that demand further knowledge identification and generation. One relates to how relational values are created, shared and expressed and how this affects sustainability. Relational values may often be latent, but could be unleashed via social, physical and technological mechanisms. One construct that may be useful for relational values is that of ‘constructed preferences’, i.e., the idea, from economics, that some preferences are developed and impacted during the process of value articulation. People may not, for example, be conscious of a spiritual relationship they have with a place (sense of place); they may not have ever had a reason to articulate the type of connection they have. Once they are asked to characterize their relationship, they may come to better understand the nuances of it.

For the recognition and acknowledgment of the full complexity and importance of the ways humans and societies relate to nature and express relational values, conversations beyond disciplinary borders are necessary. This has, however proven to be a very difficult task. Notwithstanding that there has been many processes for eliciting the instrumental values of nature to society, a substantial number of reasons for why we value nature remain hidden and lack adequate methods of articulation.

The social sciences provide arguments regarding the fact that reasons for our decisions about nature go much beyond cost-benefit trade-offs and values that can be put into a common yardstick (e.g., willingness to pay). More creative, holistic, and varied characterization methods are needed to adequately and comprehensively represent the diversity of relational values for policy-making. This is a frontier of research where recognizing, visualizing and eliciting different relational values can enhance and catalyze new knowledge that can be used in a transformative way towards sustainability and effective, as well as equitable forms of biodiversity conservation. Moreover, there is a need for understanding how to identify different forms of relational values at regional and global levels as many relational values are specific, based on local contexts, and will need to be measured at that local scale.

Relational values may also address a primary ethical concern of environmental policy-making: the fact that when values are not made explicit, the values that are incorporated into policy are those of people with power to express the values they hold. Relational values provide a systematic way to characterize values held by diverse actors, and thus may change the way in which only the values of more powerful stakeholders become dominant in decision making. Further knowledge on how some values outstrip or suppress others is therefore needed.

1. **Development of policy support tools**

Relational values can help capture hidden values that are often neglected in many conservation policies/initiatives due to power imbalances and insufficient recognition to voices that are not expressed thorough either instrumental or intrinsic value dichotomy. Such values and stakeholder groups who cherish those values in relation to nature may not properly be accounted for in policy design and implementation. This is especially relevant given the tendency in policy making to prioritize NCP that have a tangible economic value, often expressed through markets, and thus closely associated with commodified provisioning ecosystem services. This focus is important, and valuable, but omits reasons for conservation that may be most meaningful and compelling for many people, often associated with non-material NCP. Another example: biodiversity offsetting approaches may ignore relational values that pertain to people's attachment to the territory (e.g. a tree may be replaced by another one but such compensatory approach can hardly replace its full value including symbolic ones associated with cultural identity, in turn closely associated with relational values). Therefore, natural entities associated with strong relational values cannot generally be treated as commodities without incurring substantial losses of meaning. If done so, policy may be grossly misguided.

Institutions (both formal and informal) ultimately determine what people do or do not value. When relational values are perceived as significant, to integrate them into policy and decision making may sometimes require revising ways in which current institutions are established and evolve. For instance while some values have a ‘legal’ protection (e.g. market values or property rights) others are hardly recognized (e.g. spiritual values).

Accounting for relational values within the IPBES approach can serve to highlight the implication of its framework regarding aspects such as environmental justice that while they were identified as important by the MA, they were not addressed fully, e.g. recognition of a diversity of value and knowledge systems, as well as to incorporate in decision making processes values that are at the heart of many contemporary environmental conflicts. Thus, relational values can be articulated in policy process for achieving more legitimate and fair outcomes in decision making. By doing so relational values can also help raise attention to issues of power and equity, which are often translated into the domination of some worldviews over others about which values matter most for human well‑being, or to sustain/enhance people’s good quality of life, as expressed more inclusively by the IPBES conceptual framework.

1. **Communication**

Recognizing and enhancing relational values can serve to recover people’s embeddedness with the environment in an increasingly globalized world. Relational values can also serve to make aware of the impacts humans generate on nature at multiple scales including the global scale, e.g., through imports of commodities from distance places. Communication is vital to open a debate within IPBES, and beyond, about the implication of acknowledging, identifying and articulating different manifestations of relational values across cultures.

E. References

Adams, W.M. (2014) The value of valuing nature. Science 346(6209):549-551

Chan, K. M., Guerry, A. D., Balvanera, P. et al. (2012). Where are cultural and social in ecosystem services? A framework for constructive engagement. BioScience, 62(8), 744-756.

Chan, K., Balvanera, P., Benessaiah, K., Chapman, M., Díaz, S., Gómez-Baggethun, E., Gould, R.K., Hannahs, N., Jax, K., Klain, S.C., Luck, G., Martín-López, B., Muraca, B., Norton, B., Ott, K., Pascual, U., Satterfield, S., Tadaki, M., Taggart, J., Turner, N.J., (2016). Why Protect Nature? Rethinking Values and the Environment. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)*. 113(6): 1462–1465.

Chan, K. M., Guerry, A. D., Balvanera, P., Klain, S., Satterfield, T., Basurto, X., ... & Hannahs, N. (2012). Where are cultural and social in ecosystem services? A framework for constructive engagement. *BioScience*, *62*(8), 744-756.

Díaz, S., Demissew, S., Carabias, J., Joly, C. Lonsdale, W.M, Ash, N., Larigauderie., A., Pascual U.,.  et al. (2015). The IPBES conceptual framework – connecting nature and people. Current Opinion in Environmental Sustainability 14:1-16

IPBES (2016). Preliminary guide regarding diverse conceptualization of multiple values of nature and its benefits, including biodiversity and ecosystem functions and services (IPBES deliverable 3 d). <http://www.ipbes.net/images/documents/plenary/fourth/information/IPBES-4-INF-13_EN.pdf>

Justus, J. Coyvan, M. Regan, H., Lynn, M.(2009).  Buying into conservation: intrinsic versus instrumental value. Trends in Ecology & Evolution. 24(4): 187-191

MA, Millennium Ecosystem Assessment, (2005): *Ecosystems and Human Well-Being: Synthesis*. Washington DC: Island Press; 2005.

Pascual, U., Balvanera, P., Díaz, S., Pataki, G., Roth, E., Stenseke, M., Watson, R.T., et al. Valuing nature’s contributions to people: The IPBES approach.Current Opinion in Environmental Sustainability. Forthcoming.

Pascual, U., Muradian, R., Brander, L., Gómez-Baggethun, E., Martín-López, M, Verman, M., Armsworth, P., Christie, M., Cornelissen, H., Eppink, F., Farley, J., Loomis, J., Pearson, L., Perrings, C., Polasky, S. (2010). The economics of valuing ecosystem services and biodiversity. In Kumar, P (ed): The Economics of Ecosystems and Biodiversity Ecological and Economic Foundations. Chapter 5, pp. 183-256. Earthscan

Tallis, H., Lubchenco, J., Adams, V. M., Adams-Hosking, C., Agostini, V. N., & Kovács-Hostyánszki, A. (2014). Working together: a call for inclusive conservation. *Nature*, *515*(7525), 27-28.

UNEP (2014). IPBES-2/4: Conceptual framework for the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. In *Report of the second session of the Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services,* [*http://www.ipbes.net/images/IPBES-2-17%20%20%20-%20%20Advance%20En.pdf*](http://www.ipbes.net/images/IPBES-2-17%20%20%20-%20%20Advance%20En.pdf). Edited by; 2014.

III. List of Workshop Participants

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1. \* IPBES/5/1/Rev.1. [↑](#footnote-ref-1)
2. The IPBES conceptual framework uses the expression ‘nature’s benefits to people’. In this report we use the term ‘nature’s contributions to people’ which include both positive contributions, or benefits, *and* negative contributions, or detriments, drawbacks or harm) as a more inclusive term. [↑](#footnote-ref-2)