**Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services**
**Fourth session**
Kuala Lumpur, 22–28 February 2016
Item 5 (i) of the provisional agenda*
**Work programme of the Platform: work on policy support tools and methodologies**

## Information on work related to policy support tools and methodologies (deliverable 4 (c))

### Note by the secretariat

1.      As one of the four main functions outlined in its founding resolution, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services is to support "policy formulation and implementation by identifying policy-relevant tools and methodologies, such as those arising from assessments, to enable decision makers to gain access to those tools and methodologies and, where necessary, to promote and catalyse their further development" (UNEP/IPBES.MI/2/9, annex I, appendix 1, para. 1 (d)).

2.      In decision IPBES-2/5, the Plenary of the Platform requested the secretariat to establish an online catalogue of policy support tools and methodologies to facilitate easy access by decision makers to policy support tools and methodologies and to develop preliminary guidance on how to promote and catalyse their further development.

3.      In decision IPBES-3/1, the Plenary noted the development of the catalogue and of the preliminary guidance, and requested the Executive Secretary, in consultation with the Multidisciplinary Expert Panel and the Bureau, to submit them for review to Governments and stakeholders and that work be undertaken to establish the catalogue. The Plenary also requested the Multidisciplinary Expert Panel and the Bureau to further develop guidance for consideration by the Plenary at its fourth session.

4.      In response to that decision, the proposed catalogue and guidance were made available for an open review by Governments and stakeholders from 26 February to 31 March 2015. The expert group, which was continued, following up on decision IPBES-3/3, met once (in Budapest on 8–11 June 2015) to revise the proposed catalogue based on comments received and to begin establishing it, and to further develop the guidance document.

5.      The annex to the present note, presented without formal editing, includes additional information to complement document IPBES/4/12 on the work on policy support tools and methodologies for deliverable 4 (c), and in particular:

(a)      Progress on work related to policy support tools and methodologies (section I);

(b)      A more detailed version of the revised outline of the catalogue, progress to date and proposed institutional arrangements to further develop it (section II).

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# Annex

## I.    Progress on work related to policy support tools and methodologies

1.    Since IPBES-3, the following progress has been made:

2.    *Open review:* In accordance with the decision, the proposed catalogue and the preliminary guidance were made available for an open review by governments and stakeholders from 26 February to 31 March 2015. The comments received have been taken into account in the revision of the documents.

3.    *Expert group meeting:* An expert group meeting was held 8-11 June 2015 in Budapest, Hungary at the Corvinus University of Budapest. Also present at the meeting were resource persons of the ValuES project (http://www.aboutvalues.net/about_values/) and the OPPLA platform (http://oppla.eu), both examples of existing initiatives presenting policy support tools and methodologies. At this meeting the experts:

    (a)    revised the proposal for the catalogue based on the comments received in particular by:

        (i)    providing more clarity and focus;

        (ii)    strengthening the dimension of ILK; and

        (iii)    strengthening the dimension of policy instruments.

    (b)    began with the work to establish the online catalogue together with representatives from the UNDP-managed BES-Net and their web developer:

        (i)    elaborating more clearly the web-based structures;

        (ii)    defining the different roles and responsibilities of different actors managing and inputting the catalogue; and

        (iii)    developing test cases of policy support tools and methodologies to showcase the functionality of the online catalogue.

    (c)    discussed the elements and the outline of the document providing guidance on how policy support tools and methodologies could be promoted and catalyzed agreeing that it should cover the following aspects:

        (i)    a reflection of the mandate of IPBES regarding its function to support policy formulation and restoration;

        (ii)    a summary of the most important concepts framing the work on policy support tools and methodologies;

        (iii)    a description of the different approaches proposed to deliver on this mandate, including all types of deliverables of the work programme;

        (iv)    a description of the proposed institutional arrangements necessary to implement the approaches suggested, including structures, rules of procedure, expert and technical support and budgetary requirements; and

    (d)    exchanged views with experts from the values expert group (3d) on how to align respective work.

4.    *Establishment of the online catalogue:* Following the Budapest meeting, the expert group continued working with BES-Net on establishing the online catalogue. In accordance with the decision, and following previous guidance, the secretariat is currently working to establish an agreement with BES-Net (UNDP) (a UN-to-UN contribution agreement).

5.    *The guidance on how policy support tools and methodologies could be promoted and catalyzed in the context of the Platform:* This document is presented to the Plenary as document IPBES/4/12.

## II. Revised outline for a catalogue of policy support tools and methodologies

### Content

## 1.    Introduction

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) was established in 2012 to "strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development". To achieve IPBES´s goal, four functions were mandated: 1) to catalyze the generation of new knowledge; 2) to produce assessments of existing knowledge; 3) to support policy formulation and implementation; and 4) to build capacities relevant to achieving its goal. These interconnected functions are realized in the Platform work programme 2014–2018 adopted in the second session of Plenary of the IPBES in December 2013. The Conceptual Framework (CF), endorsed in the same Plenary, provides coherence and coordination in the implementation of these functions.

The mandate of IPBES with regard to support policy formulation and implementation states that:

"The Platform supports policy formulation and implementation by identifying policy-relevant tools and methodologies, such as those arising from assessments, to enable decision makers to gain access to those tools and methodologies and, where necessary, to promote and catalyze their further development." (UNEP/IPBES.MI/2/9, Appendix 1, paragraph1 (d))

The work programme adopted by IPBES further:

"requests the Multidisciplinary Expert Panel and the Bureau, supported as necessary by a task-specific expert group, to develop a catalogue of policy support tools and methodologies, to provide guidance on how the further development of such tools and methodologies could be promoted and catalysed in the context of the Platform and to submit the catalogue and guidance for review by the Plenary at its third session."

There is a wide range of policy support tools and methodologies available for different purposes, at different stages of the policy cycle. However, it is often difficult for decision-makers or practitioners to either access information on policy support tools and methodologies, or to identify how relevant they might be.

The proposed IPBES catalogue of policy support tools and methodologies is an innovative and evolving online platform with two main goals. The first goal is to enable decision makers to gain easy access to tailored information on policy support tools and methodologies to better inform and assist the different phases of policy-making and implementation. The second goal is to allow a range of users to provide input to the catalogue and assess the usability of tools and methodologies in their specific contexts, including resources required and types of outputs that can be obtained, and thus help to identify gaps in tools and methodologies. More than a repository of high quality information on available policy support tools and methodologies, the proposed catalogue will therefore enable decision-makers, practitioners and other social groups to adopt a step-wise approach to identify the most relevant policy support tools and methodologies with regards to their individual needs.

The proposed catalogue will be an online platform designed around IPBES processes and functions, and with a user-focused approach: a catalogue designed by users for users. This means that the catalogue will be designed to help decision-makers understand and apply policy support tools and methodologies that are best suited to meet their needs. A system of in-built moderation means that users with experience of policy support tools and methodologies ensure the quality and credibility of the catalogue, building a robust catalogue that continuously evolves to meet decision-makers' requirements. The online catalogue will enable users to add, suggest and rate tools. The policy support tools and methodologies in the catalogue aim to link up and benefit individuals or institutions that have experience in developing or using them. They are therefore practical, real-life examples of the tools and methodologies including their strengths, weaknesses, and where they can be applied. This innovative and dynamic approach to the online catalogue is expected to lead to the creation of a community of practice, where diverse decision-makers, practitioners, research scholars and other social groups, including indigenous and local communities, can interact and build networks with peers to refine and develop policy support tools and methodologies. In this context the catalogue should be considered as an ongoing and dynamic activity in the context of IPBES.

To develop the catalogue, this guidance document has been developed to explain the rationale behind the catalogue. This guidance should be used broadly in the context of IPBES as it provides a clear definition/explanation of what 'policy support tools and methodologies' are and conceptualizes these in the context of IPBES objectives and functions (Chapter 2). The guidance document goes on to suggest how the further development of the policy tools and methodologies could be promoted and catalyzed and recommends how policy tools and methodologies could be more systematically

identified, made accessible and disseminated by the Platform (Chapter 3). The link between Chapters 2 and 3 is achieved through the discussion of four potential 'entry points' to the catalogue. The catalogue has four different entry points, depending on user needs. These entry points are:

- the families of tools and methodologies;

- when in the policy cycle you would need to apply a policy support tool or methodology;

- which aspects and challenges you would like to address by policy support tools or methodologies in the IPBES conceptual framework; and

- how you might use policy support tools and methodologies in implementing biodiversity-related Multilateral Environmental Agreements (MEAs).

These entry points are described in Chapter 2 and explained in the context of the online catalogue in Chapter 3.

Taken together, the catalogue and guidance document aim to illustrate and enhance the effectiveness of policy support tools and methodologies in operationalising IPBES's mandate. These two products seek to serve the needs of a range of social actors, focusing primarily, but not exclusively, on diverse decision-makers and implementing bodies and also on information providers and brokers. It also provides elements for IPBES to engage in dialogues with other conventions and initiatives with similar visions and complementary mandates about possible synergies on the use and further development of relevant policy support tools and methodologies.

## 2. Definition and typology of policy support tools and methodologies in the context of IPBES

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This chapter provides a conceptual basis, structuring elements and entry points for the online catalogue on policy support tools and methodologies (PSTM) in the context of IPBES. The first section defines policy support tools and methodologies on the one hand and policy instruments on the other, and clarifies the relationship between the two. Furthermore, context for designing and implementing policy instruments is provided, next to an overview of four basic categories of policy instruments as developed in the context of IPBES. Building on this knowledge, the following four sections each introduce an entry point to the online catalogue: 1) the elements of the policy cycle; 2) the families of policy support tools and methodologies; 3) the IPBES conceptual framework; and 4) applications for the implementation of Multilateral Environmental Agreements.

### 2.1 Policy support tools and methodologies and policy instruments: definitions, context and instrument categories

A broad definition of policy support tools and methodologies is necessary to support the development of a comprehensive catalogue and guide that is useful for policy makers, member states, allied organizations, NGOs, indigenous people, business and other stakeholders. This broad definition seeks to include all tools and methodologies that can contribute to desired outcomes for people and nature in relation to biodiversity and ecosystem services. For the purposes of this guide, policy support tools and methodologies are defined as follows:

Policy support tools and methodologies are approaches and techniques based on science and other knowledge systems (incl. indigenous and local knowledge – ILK) that can inform, assist and enhance relevant decisions, policy making and implementation at local, national, regional and international levels to protect nature, so promoting nature's benefits to people and a good quality of life.

In addition, it is important to understand the context of policy support tools and methodologies in light of varying social, cultural, economic and ecological challenges and opportunities, implying that the identification, design and implementation of policy tools and methodologies do not follow a 'one size fits all' approach. Generally, the challenges present themselves either as a threat to the wellbeing of humans and the rest of nature or an endeavor to improve living in harmony with nature. In order to overcome threats decision makers' will to act is expressed through changed behavior or policy. Policies need instruments to be materialized. Different policy instruments might be chosen

according to, for instance, the historical context, governance structure or political orientation of a given country or region.

Policy instruments may take the shape of environmental standards and regulation, economic incentives to correct resource allocation failures, education, capacity building and awareness raising activities, monitoring mechanisms, diverse cultural arrangements, holistic approaches taking account of ILK systems, among others (in Appendix 1, we provide a non-exhaustive list of policy instruments as they may be relevant in the context of IPBES). Policy instruments are generally used in combination, as a policy mix, which "has evolved to influence the quantity and quality of biodiversity conservation and ecosystem service provision in public and private sectors" (Ring & Schröter-Schlaack, 2011). For example, economic incentives are based on laws; laws are implemented with the support of information instruments and monitoring is frequently needed to guarantee compliance with other instruments. Enforcement mechanisms are also part of the policy toolkit that ought to fit the social and cultural context. Finally, those instruments can be selected, designed, evaluated, implemented, monitored and reviewed through the use of policy support tools and methodologies.

To distinguish policy instruments from policy support tools and methodologies, policy instruments are defined here as:

> Policy instruments are structured activities by means of which decision-making institutions attempt to realize or achieve a decision to ensure support and effect or prevent social change expressed by a policy addressing an identified challenge or opportunity (Adapted from Vedung, 2011).

While policy instruments are often referred to as being designed and implemented by public authorities only (as, for example, in Vedung, 2011), this guide explicitly embraces a broader understanding of policy instruments as well as policy support tools and methodologies: Relevant decision-making institutions include public authorities, but also groups, organizations, indigenous people and local communities, entities and stakeholders that undertake activities relevant to biodiversity and ecosystem services. Figure 1 illustrates examples of the interrelation of policy formulation, categories of policy instruments, and a large pool of policy support tools and methodologies for addressing the challenges of biodiversity loss and the degradation of ecosystem services.



**Figure 1:** Examples of the interrelation of policy formulation, categories of policy instruments, and a large pool of policy support tools and methodologies for addressing the challenges of biodiversity loss and the degradation of ecosystem services.
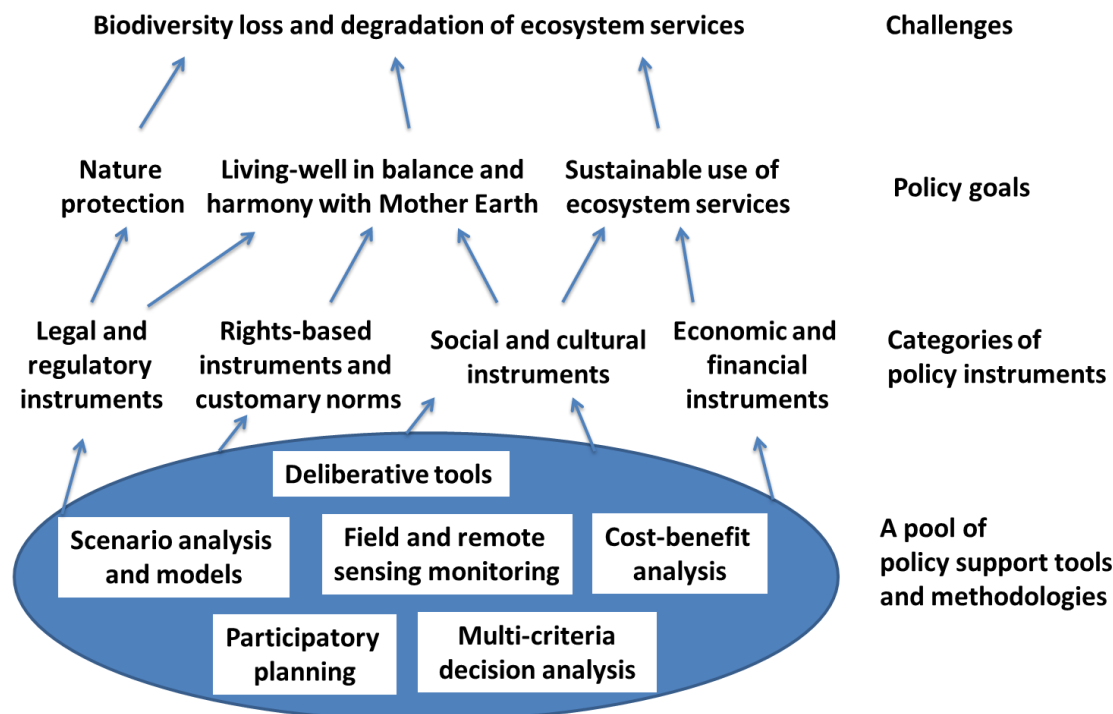
Policy instruments can be viewed according to various contexts and worldviews. The IPBES conceptual framework highlights the central role of institutions and governance as they influence all aspects of relationships between people and nature and thus the different focus and types of values people assign to nature, nature's benefits to people and a good quality of life. Both formal and informal institutions determine the types and levels of values and how responsibilities, costs and benefits of biodiversity conservation are distributed across society (see IPBES Del. 3d). Examples of formal institutions include law and policies e.g., macroeconomic, fiscal, monetary or agricultural policies, markets and legal property rights. These are typically based on various legal instruments, treaties and customary laws. Informal institutions in turn include social norms and rules, such as those related to collective action. Lastly, organizations are also a form of institutions.

The main underlying reason behind biodiversity loss and ecosystem degradation is due to various institutional failures that are often catalogued as (i) law and policy failures (e.g., perverse subsidies), (ii) market failures (externalities in the use of public goods and services), (iii) organizational failure (e.g., lack of transparency and political legitimacy in decision making) and (iv) informal institutional failures (e.g., break of collective action norms due to erosion of trust and reciprocity). Law and policy failures include for example, lack of implementation of legal systems for sustainable resource management, laws that foster unsustainable practices, fragmentation and conflicting laws as barriers for mainstreaming biodiversity and addressing interlinked risks to ecosystems, and laws not suited to address unexpected global risks. Policy failures further include issues like failure of government policies to correct externalities and those that perversely enhance these negative externalities on society. For example, agricultural subsidies and incentives tend to add pressure on land degradation. Market failures occur when the allocation of goods and services by market price signaling is not efficient, leading to external costs, especially in the allocation of public goods and services. In these cases, market prices generally fail to reflect the true social costs and benefits of the use of biodiversity and associated ecosystem services. This requires internalizing such external costs, what is normally known as "getting the prices right" through various policy instruments, such as taxes and subsidies, voluntary schemes (e.g., payments for ecosystem services), and other measures, for example, the allocation of property rights to users, which can include private, public (state) and communal property rights. Organizational failure occurs when governmental, non-governmental authorities and community based organizations that manage natural resources are ineffective, absent and/or lack inter-organizational coordination. Lastly, informal institutional failure occurs due to a variety of reasons such as lack of or conflicting interactions in decision-making processes between formal and informal institutions, which for example can inhibit collective action to sustainably manage natural resources.

It should also be noted that in the context of some world views, such as those associated with the systems of life of Mother Earth, it may not be adequate nor possible to frame the problem of biodiversity loss and ecosystem degradation through the above four underlying reasons. For example, some views, such as the 'Living-well in balance and harmony with Mother Earth' (see IPBES conceptual framework), may deviate from the idea of "getting the price right" as a policy perspective for governing biodiversity and ecosystem services, and suggests other activities to support decision making (Pacheco Balanza, 2013).

Policy instruments can be categorized into four main categories: (i) legal and regulatory instruments; (ii) rights-based instruments and customary norms; (iii) economic and financial instruments; (iv) social and cultural instruments. These need to be considered independently or within a policy mix context, reflecting different circumstances and priorities across administrative scales, e.g., subnational, national and international. These different categories are applied in concordance with people's worldviews and socio-cultural contexts. It may be noted that for instance certain economic instruments can be contradictory to some rights-based approaches. The choice of policy instruments necessarily implies altering the distribution of responsibilities, costs and benefits from the conservation and use of biodiversity. Any policy instrument can only be effective if the supporting formal and informal institutions are in place.

Legal and regulatory instruments: Implementing and articulating laws and regulations at different levels can foster positive relationships between the protection of environmental functions, the development of sustainable production systems, and peoples' wellbeing. A balance between flexibility and legal certainty in the design and implementation of these instruments can foster socio-ecological resilience and contribute to address unexpected risks (Garmestani et al., 2013). Social and environmental standards and principles can inform substantive and procedural dimensions of policy instruments in order to continuously improve environmental performance (Glicksman & Kaime, 2013). Planning instruments sometimes take the form of environmental management plans, which outline programs of actions, which have been identified as part of the environmental management

systems. These are sometimes required as part of due diligence and compliance with environmental legislation and regulations.

Rights-based instruments and customary norms: Synergizing rights and norms for the conservation and protection of systems of Mother Earth can foster complementarity with human wellbeing (Pacheco Balanza, 2013). International and national human rights instruments whether binding or non-binding can be creatively interpreted to fit socio-ecological systems and foster resilience (Ebbesson & Hey, 2013). Strengthening of collective rights, customary norms and institutions of indigenous peoples and local communities, can promote adaptive governance including the equitable and fair management of natural resources.

Economic and financial instruments: They can be used to change people's behavior towards desired policy objectives. Instruments typically encompass a wide range of designs and implementation approaches. They include traditional fiscal instruments, including for example subsidies, taxes, charges and fiscal transfers. Additionally, instruments such as tradable pollution permits or tradable land development rights rely on the creation of new markets. Further instruments represent conditional and voluntary incentive schemes such as payments for ecosystem services. All these can in principle be used to correct for policy or/and market failures and reinstate full-cost pricing. They aim at reflecting social costs or benefits of the conservation and use of biodiversity and ecosystem services of a public good nature ("getting the price right"). Financial instruments, in contrast, are often extra-budgetary and can be financed from domestic sources or foreign aid, external borrowing, debt for nature swaps, etc. It should be noted that economic instruments do not necessarily imply that commodification of environmental functions is promoted. Generally, they are meant to change behavior of individuals (e.g., consumers and producers) and public actors (e.g., local and regional governments).

Social and cultural instruments: They include instruments with an emphasis on the intertwined relationships between ecosystems and sociocultural dynamics for the management of natural and cultural assets, including for instance heritage sites such as sacred sites, peace parks, indigenous and community conserved areas. Depending on the instrument, the applicable territorial jurisdiction varies (e.g. bi-national, national and local). Social instruments are beyond economic and financial instruments. Awareness based voluntary interventions may include for example (i) information-related instruments like environmental education, eco-labelling, pollutant release and transfer registers, biodiversity registers, awareness raising (including award schemes), information dissemination, community right to know; (ii) self-regulation, voluntary agreements, corporate social responsibility, buyer-supplier relations; (iii) participation (social pressure, worshipping etc. and (iv) enhancement of collective action of indigenous peoples, local communities, and local resource users, etc.

### 2.2 Characterizing the policy process and the elements of the policy cycle

Any comprehensive guide to policy support tools and methodologies needs to articulate a view of the policy development process. For the purposes of this guide, we adopt a simple characterization of the policy process, with three distinct but overlapping elements: agenda setting and review; policy design and decisions; and policy implementation, as shown in Figure 2. This deliberately merges 'post policy' evaluation and 'pre-policy' problem framing, as problem framing occurs in the context of settings and circumstances that have been influenced by past policies. Presenting the three elements as overlapping further recognizes that in practice the boundary lines between elements are often blurred, and that the evolution of policy does not always follow a strict sequence of events (as implied by more distinct multi-stage categorizations of the policy cycle, e.g. UNEP, 2009). In the context of this guide, the overlap between elements suggests that specific tools and methodologies can be used to support multiple elements or stages of the policy cycle, and in some instances it may be difficult or inappropriate to classify a specific policy support tool or methodology as only being associated with or relevant to one element or stage.

The dynamics and operation of the policy cycle may vary depending on the restrictions and opportunities determined by the wider context. In other words, the specific conditions found at a given geographical setting and scale may restrict or ease the suite of policies that may be carried out, according to, for instance institutional capacity, culture, ways of thinking and value systems, historical experience, cultural history.
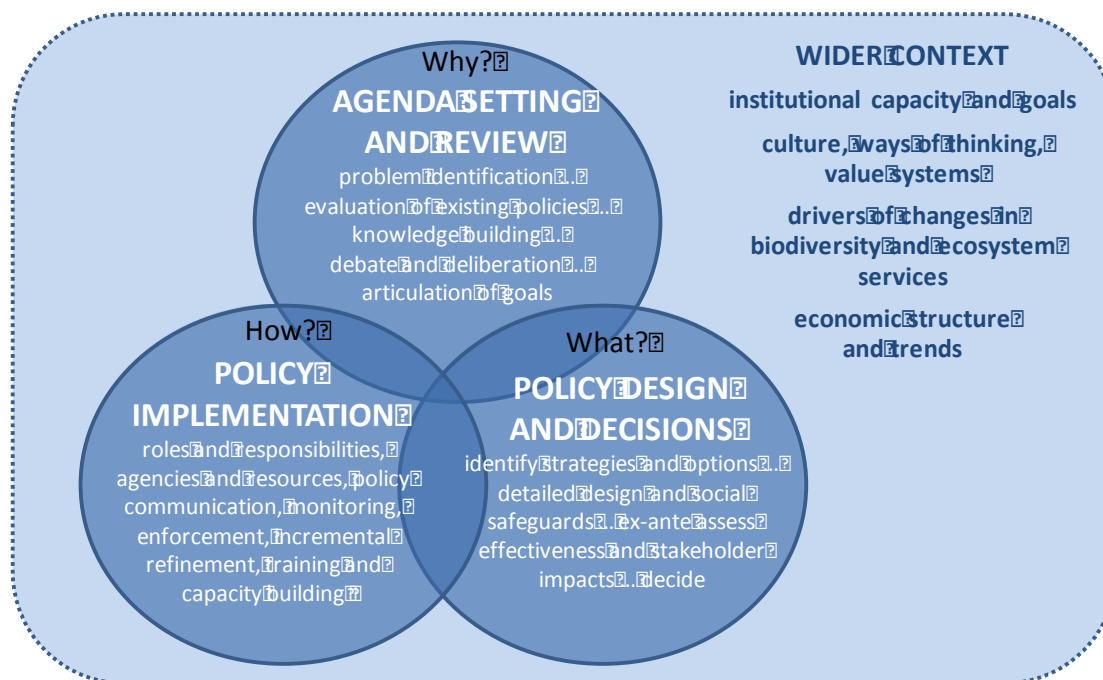
**Figure 2:** Three key elements of the policy cycle, and illustrative activities associated with these elements, in their wider context.

### 2.3 Families of policy support tools and methodologies

The next step in developing a typology of policy support tools and methodologies is to identify a number of families of approaches and techniques, each of which addresses different types of decisions, decision-making institutions or policy-making cultures in the development, implementation and adaptation of policy, for the benefit of people and nature. A more comprehensive list of policy support tools and methodologies is provided in Appendix 1. Some tools and methodologies may fall in more than one family. The seven proposed families of tools and methodologies, defined in terms of the broad challenges addressed and with examples of tools and methodologies for each, are the following:

Family 1. Assembling data and knowledge (including monitoring). Addresses underlying scientific and other types of knowledge gaps (including ILK) by providing the data necessary to understand the function and dynamics of biodiversity, human wellbeing, nature's benefits to people (including ecosystem goods and services), and associated social-ecological systems. Includes data collection efforts, databases and monitoring, indicators, oral history, mapping of ecosystem services, among others. This family is relevant to all elements of the policy cycle.

Examples of this family include those databases provided by the Global Biodiversity Information Facility (GBIF) and Geo Information Systems (GIS).

Family 2. Assessment and evaluation. Addresses existing scientific and other knowledge by synthesizing and assessing such knowledge types (including ILK) relative to the status, function, determinants/drivers, and outlook for specific aspects of nature, nature's benefits to people, human well-being, relevant social-ecological systems and outcomes, and connections between these. These include different types of assessment and evaluation tools, based on a variety of methods and diverse conceptualizations of values of nature, nature's benefits to people, and a good quality of life. This family is relevant to all elements of the policy cycle.

Examples of this family include from IPBES3-5: management effectiveness, trend analysis, scenarios, identification and assessment of indigenous and local community conserved areas, quantitative modelling, accounting, life-cycle assessment, deliberative valuation, cost–benefit analysis, trade-off analysis.

Family 3. Public discussion, involvement and participatory process. Contributes to identifying problems and opportunities, setting goals and priorities, meeting agreed principles such as gender and social equity, establishing the case for policy action, and building shared understanding of requirements and consequences. This is achieved by supporting discussion and deliberation about the implications of new knowledge and data, emerging risks and opportunities, and potential societal responses, and the effectiveness and merits of existing and

potential institutions and policy settings. This family is relevant to all elements of the policy cycle.

Examples of this family include from IPBES3-5: expert interviews, stakeholder, consultation, field observation, focused group discussion, Public Hearing and Auditing (PHA), Participatory Well-being Ranking (PWBR), mass media communication

Family 4. Selection and design of policy instruments. Supports the identification, evaluation and choice of potential policies and institutional settings, including evaluation and comparisons of past experience or similar experience elsewhere, and outcomes under different policies and circumstances and policy mix analysis. It focuses primarily on choice and design of new and existing policies, keeping in mind that policy instruments are different from policy support tools and methodologies. This family is primarily aligned with Policy Design and Decisions, but it could be relevant to the other two elements of the policy cycle.

Examples of this family include from IPBES3-5: policy analysis, identification of missing instruments, instrument impact evaluation, ex-ante evaluation of options and scenarios, designing of individual territory sets or systems of protected areas, policy mix analysis.

Family 5. Implementation, outreach and enforcement. Supports practical implementation of policies, including laws, regulations and quasi-regulations, economic instruments and incentives, and information tools, including through monitoring, providing information to stakeholders and through supporting enforcement and compliance activities. It focuses primarily on supporting the implementation of policies that have already been decided and enacted. This family is primarily aligned with Policy Implementation, but could be relevant to the other two elements of the policy cycle.

Examples of this family include from IPBES3-5: audits, risk-based enforcement effort, process standards (e.g. International Standards Organization (ISO)), monitoring, reporting and verification.

Family 6. Training and capacity building. Identifies and addresses capacity gaps and shortfalls by enhancing the skills and capacity of relevant actors and organizations, including government officials and agencies, communities and representatives, businesses, non-government organizations, advisors, and support services. This family is cross-cutting to all elements and can be applied within each element to enhance capacity and improve outcomes.

Examples of this family include from IPBES3-5: handbooks, manuals, guides, e-learning resources, education, workshops, knowledge sharing.

Family 7. Social learning, innovation and adaptive governance. Addresses gaps and disconnects in the policy process, through identifying opportunities to promote social learning and to strengthen links and feedback mechanisms across elements and activities, supporting improved responsiveness, risk management, and overall performance of policy process as a whole. This family is cross-cutting to all elements, but applied to the links and inter-relationships across elements and activities to influence the dynamics and performance of the policy review, development and implementation process itself.

Examples of this family include from IPBES3-5: strategic adaptive management, social learning theory

## 2.4 Identification of policy support tools and methodologies relevant to IPBES

Policy support tools and methodologies can be directly related and reflected according to a wide range of possible application contexts. In the context of the Platform, and within the catalogue of policy support tools and methodologies, the main focus will be:

(a)    The conceptual framework of IPBES and its various components; and

(b)    The Strategic Plan for Biodiversity 2011-2020 and its Aichi Targets.

Other applications include, but are not limited to:

(a)    Elements of the policy cycle (e.g. agenda setting and review, policy design and decisions, policy implementation);

(b)    Geographical or administrative scale of application (global, regional, national, subnational and indigenous and local communities; rural versus urban areas);

(c)      Biological or ecological context including species taxonomy (e.g., birds, plants), biome classification (e.g., tropical rainforests, coral reefs), and ecosystem service classes (e.g., provisioning services, cultural services, etc).;

(d)      Socio-economic context (e.g. markets and private sector relations, informal economy and livelihood security, state intervention in provision of public goods, civil society, and vulnerable communities);

(e)      Specific problem or challenge addressed (e.g. issues related to perverse incentives, missing information, market failure, lack of appropriate/equitable legal frameworks, absence of risk management options);

(f)      History of use (e.g. tools and methodologies can be categorized based on whether they are in a pilot phase or are already under full implementation);

(g)      Environmental policy and governance context (decision-making process, governance structure, public involvement in decision-making process, etc).

As noted above, the IPBES conceptual framework (CF hereafter) lends itself to identifying relevant policy support tools and methodologies (see Figure 3).
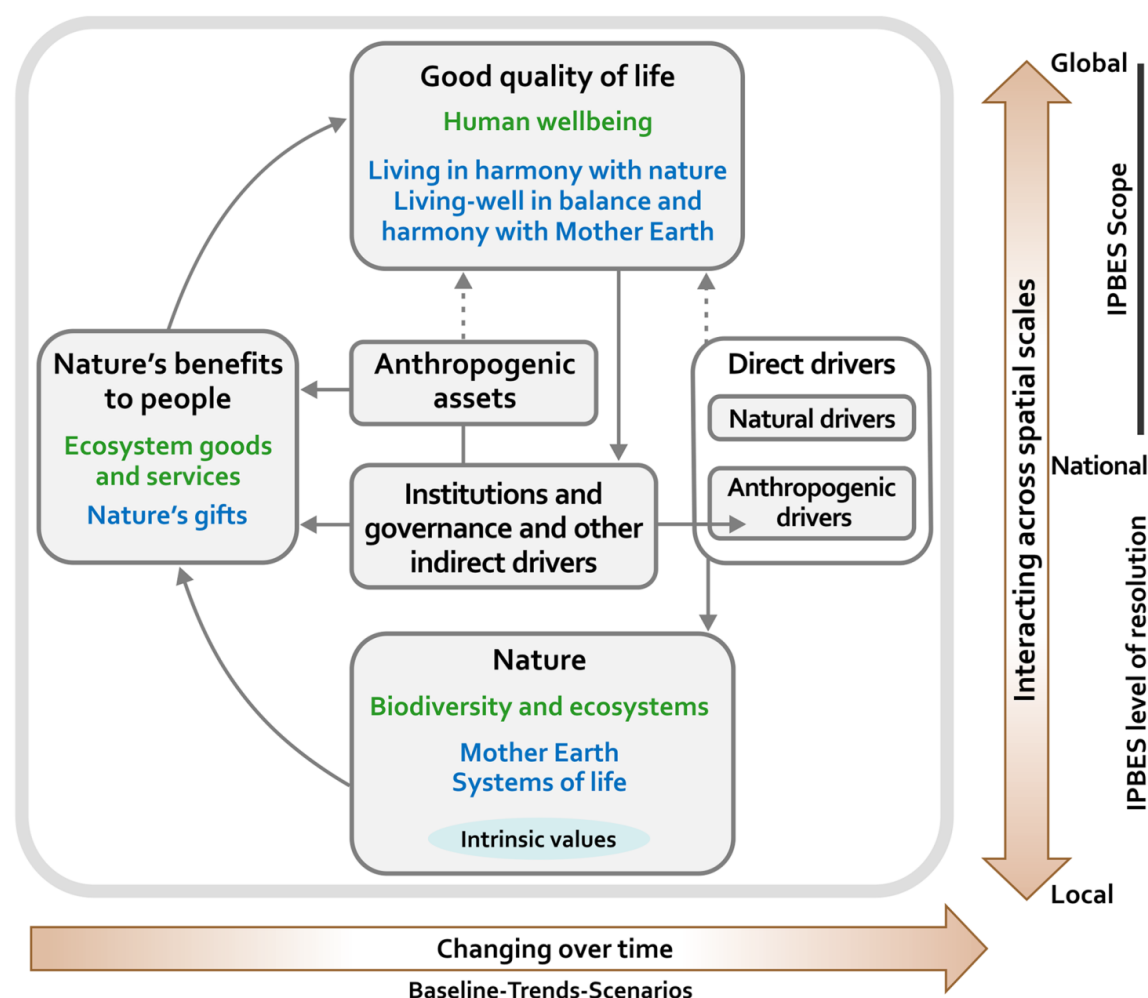


**Figure 3:** Conceptual framework of IPBES adapted for the identification of relevant policy support tools and methodologies (PSTMs). Letters indicate the main elements (boxes) and numbers refer tothe interactions or linkages across the elements (arrows). *Elements:* A: Indirect drivers, B: Direct drivers, C: Nature, D: Nature's benefit to people, E: good quality of life, F: Anthropogenic assets. *Interactions:* 1. Institutions to drivers 2. Drivers to nature; 3. Nature to nature's benefits; 4) Nature's benefits to good quality of life; (5) Institutions to nature's benefits; (6) Anthropogenic assets to nature's benefits; (7) Quality of life on institutions .Awareness of the spatial (arrow G) and time (arrow H) scales where the policy support tools and methodologies can be applied is necessary in the process of fostering the fit between governance systems and the dynamics of socio-ecological systems. While some policy tools and methodologies are overarching and address several elements of the CF (boxes) and links (arrows),

others can be better related to a specific element or link in the CF. For more information about the IPBES CF, see Diaz et al. (2015).

### 2.4.1 Overarching policy support tools and methodologies that cut across elements of the IPBES Conceptual Framework (CF)

Certain policy support tools and methodologies connect to the central element of the CF, i.e. institutions and governance and other indirect drivers (Box A). For example, regional and sub-regional assessments can help understand suitable policy mixes and alignments in polycentric governance systems in order to understand challenges for sustainable use and conservation in key sectors in distinct regions (see Deliverable 2 (b) IPBES/3/6/Add.1).

Evaluating the role of institutions in shaping social interactions and decision-making processes can be useful for analyzing the reasons, values and principles behind certain institutional choices or decisions that affect the multiple direct drivers on nature and changes in the perception of nature's benefits to people (Ostrom 1990; 2007; 2009) (Arrows 1 and 5) (Families 4, 5, and 7, see section 2.3 for the full set of families of policy support tools and methodologies).

Other tools that help identify and assess distinct aspects of governance systems abound. For example, practical guidelines, case studies and indicators about issues such as gender participation and accountability which affect collective action towards addressing key indirect and direct anthropogenic drivers that in turn impact on nature (Arrows 1 and 2) and can enhance nature's benefit to people and changes in good quality of life (Arrows 5 and 4) (Family 7). Likewise, socially-focused methodologies and communication strategies that allow bottom-up deliberation models through for instance new IT modes of social media (Family 3) have been used for generating awareness that global societal challenges such as inequality and widespread poverty as well as environmental deterioration are interrelated and their causes and potential solutions may be found on improving governance systems across scales. Structural issues, such as power, equity and inclusion, poverty and access to nature's benefits relate to the formation and modification of values (Deliverable 3 (d), IPBES/3/8). Regional and sub-regional assessments can help in identifying distinct options for integrating biodiversity and ecosystem services into poverty reduction strategies and assessing who would gain or bear the respective costs, benefits and the risks and opportunities that may arise (see Deliverable 2 (b) IPBES/3/6/Add.1). Participatory action research and public deliberation tools at the local level can also aid as early warning signals for new global risks derived from changes in the environment such as climate change, both an anthropogenic and natural driver (Family 3).

Since governance and indirect drivers are intrinsically linked with policy support tools, many of these can be interpreted also as tools and methodologies that necessarily cut across key elements in the CF (i.e. elements B, C, D, E in Figure 3). For example, assessments are key to support governance and thus to impact on indirect drivers (Family 2). Assessments with potential impact on governance at many levels, mostly as elements of Family 2 include the IPBES global assessment on biodiversity and ecosystem services (Deliverable 2 (c), IPBES/3/9) with a more general approach, this assessment will build on other existing efforts with a relatively more specific thematic focus within IPBES such as the thematic assessment of pollination and pollinators associated with food production (deliverable 3 (a)) (IPBES/3/INF/5, 2014) and the thematic assessment of land degradation and restoration (Deliverable 3(b)(i), IPBES/3/INF/18, 2014). The relevant information is collected from sources of other relevant processes including but not limited to reporting and strategies to the relevant processes at national level or the Global Biodiversity Outlook (GBO) or the World Ocean Assessment (WOA)[*] at international level (IPBES/3/9, 2014). While the above-mentioned examples address the global level, assessments can also focus on other levels. For example, national assessments can compile and evaluate information on the status of knowledge about biodiversity and the effect that human activities, public policies and regulations of a specific country on biodiversity and on the provision of ecosystem services (Sarukhán, J., et al. 2009). There are also other PSTMs such as databases or records of the components of Mother Earth as part of an integrated management of land; this type of information can be useful for developing integral approaches such as living well and balance in harmony with Mother Earth addressing various sub-global scales.

Legal and economic assessments (Families 2 and 5) provide useful information for identifying institutional drivers such as perverse incentives that impact on human behavior towards overexploiting nature. For example, models and checklists can support in identifying environmentally harmful subsidy schemes, assessing their impacts of such schemes, and evaluating their effectiveness and the impact of their removal (see e.g. Valsecchi et al 2009). These types of socio-economic and regulatory assessments are necessary to select and design economic incentives such as payments for ecosystem services, among others.

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[*] http://www.worldoceanassessment.org/

While the above-mentioned examples address the global level, assessments can also focus on other levels. For example, in Mexico an assessment was developed to capture the value of biodiversity from a societal perspective. This assessment was produced with the participation of academics and professionals. The aim was to compile and evaluate information on the status of knowledge about biodiversity and the effect that human activities, public policies and regulations have on biodiversity and on the provision of ecosystem services.[†]

There are crosscutting tools and methodologies that present interlinkages of the key elements of the CF and target a diverse range of stakeholders from governments to civil society, indigenous peoples and local communities and the private sector including financial institutions. This is for example the case of the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity (CBD-COP Decision VII/12 2004). Internationally agreed targets such as the Aichi Biodiversity Targets and associated PSTM also have an overarching character. More specifically, the Global Initiative on Legal Preparedness for Achieving the Aichi Biodiversity Targets relates to Arrows 1, 2, 5 and 7 in terms of different families of policy support tools and methodologies (Family 1, 3, 4 and 7, respectively).[‡] For instance, the Legal Preparedness for Achieving Aichi Biodiversity Target 16 (Cabrera et al n/d) concerning the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization can contribute to identify gaps and innovations in laws and regulations (Family 1) for adequately protecting vulnerable genetic resources from direct drivers that negatively affect them (Arrows 1 and 2). This Legal Preparedness tool can also be useful for selecting and designing policy instruments (Family 4) to operationalize the fair and equitable sharing of benefits arising from the utilization of genetic resources, on the basis of prior informed consent and mutually agreed terms thereby protecting the benefits that genetic resources provide to people (Arrow 5). Dialogue among different stakeholders about the outcomes of this Legal Preparedness can serve as a basis for more informed public participation (Family 3) with lessons learned for various countries in developing their own ABS regulation (Family 7).

### 2.4.2 Policy support tools and methodologies that address the linkages between indirect drivers and direct drivers, and between indirect drivers and nature's benefits to people

Policies (indirect drivers) that have impacts on direct drivers (e.g. habitat conversion, natural resources exploitation, pollution, and introduction of invasive species, climate change) and aim to modify, inhibit, or promote behaviors can be operationalized with different policy support tools and methodologies. These policy support tools and methodologies can contribute to incentivize behavior in a way that reduces anthropogenic drivers of biodiversity and ecosystem loss while fostering ethical values and reasons for reconnecting with systems of life.

Various policies can be put in place when national or sub-national authorities are interested in protecting nature and promoting ecosystem services for enhancing people's quality of life (Arrow 1 and 5). Some of these policies include biodiversity conservation laws and regulations and territorial planning. Policy implementation requires a mix of instruments such as natural protected areas, ecosystem restoration, green infrastructure management in urban and rural areas, indigenous and community conserved areas, wildlife community based management, as well as biological corridors and integrated watershed management. The tools to operationalize these instruments may include those related to participatory and spatial planning (Family 5), assessments of local communities' needs and interests and species and ecological processes (Family 2), and identification of cultural assets (Family 1).

The social-ecological contexts affect the way different policy support tools may be prioritized when selecting and designing policy instruments and policy goals (Family 4). For instance, governments may prioritize the protection of individual large tracks of biodiversity-rich areas vis-a-vis the alternative of spreading smaller ones within an ecological network or mosaic of different protected area categories and recognition of indigenous and community conserved areas. At the regional level, given the concomitant trans-boundary challenge of nature protection, policy support tools include exchange or collaborative networks (Families 7, 6 and 3).

Tools and methodologies can contribute to address direct drivers including anthropogenic and natural drivers (Arrow 1). To measure nature loss due to anthropogenic drivers, certain methodologies can serve to assemble data and create awareness of the linkages between the national and global anthropogenic drivers. For example, footprint tools to measure the ecological resource use and associated capacity of nations over time and can also serve to provide comparable ecological footprints towards the development of international standards. Footprint tools for understanding the

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† http://www.biodiversidad.gob.mx/pais/capitalNatMex.html and Sarukhán, J., *et al. (*2009).

‡ http://www.idlo.org/AichiLawsSite/index.html

linkages between urbanization, biodiversity and ecosystem services can also serve to understand anthropogenic drivers (Families 1, 2, 3, and 6).

Systematically applying conservation status monitoring tools (Families 1 and 2), particularly the ones related to ecosystem conversion, can serve to use policy instruments related to deforestation, or forest conversion to agriculture or other land uses. The systematic release of deforestation data can promote social/public debate and, with it, the conditions for the establishment of deforestation control programs.

Environmental and social safeguards (Family 5) are policy support tools that require ex-ante assessments and try to minimize risks that policy instruments may carry. For instance, social and biodiversity safeguards associated with the design and implementation of climate mitigation schemes can serve to maximise the co-benefits with social and biodiversity objectives and address trade-offs that might arise (Arrow 1) (Ituarte-Lima et al 2014). This requires locally-focused tools such as community monitoring and information systems (TEBTEBBA, 2014;) (Families 1 and 2) including eco-cultural calendars and eco-cultural mapping (Di Gessa et al 2008; Crawhall, 2010)(Family 1). Locally-focused tools can also be complementary to those addressing disaster risk prevention and vulnerability to support decision-makers to share information on risk mitigation (Peduzzi et al. 2009).

### 2.4.3 Policy support tools and methodologies that link Nature, Nature's benefit to people and Good quality of life

To assemble data and knowledge about elements and functions of nature, a mix of tools can be used (Box C). Qualitative and quantitative indicators (Family 1) as well as status of life systems' baselines and scenarios of nature trends (Families 1 and 4) can contribute to better understand the evolving status of biodiversity across spatial scales. Diverse indicators and their alignment can help assess the status and use of biodiversity, which can be a contribution of the IPBES task force on knowledge and data (see IPBES/3/INF/22, 2014). Biocultural mapping (Families 1 and 3) can help to identify and measure the variety of natural and cultural systems, and the relationships between cultural values and biodiversity, as well as a diverse array of nature values according to different cultural approaches (Box C). Index have also been used for mapping biodiversity status across major ecosystems using multiple sources of data and expert knowledge with a national scope. Co-production of knowledge including tools such as focus groups that build on indigenous and local knowledge systems as well as practitioners' knowledge can contribute to our understanding of biodiversity and ecosystems for human wellbeing (Tengö et al 2014; Danielsen 2014).

In terms of nature dynamics and its effects on the provision of benefits to people (Arrow 3), tools such as databases (e.g. land and water datasets as well as economic values databases) can support the process of assembling data and knowledge (Family 1). While very valuable for decision-making processes, data and knowledge derived from metrics, models and scenarios of biodiversity and ecosystem services are often imperfect and limited in their scope. Hence, supporting effective decision-making and policy depends on careful and clear delineation and communication of these limitations (IPBES/3/4). The methodological principles for handling knowledge gaps and uncertainty aim to contribute to navigate uncertainty around observations and predictions on biodiversity and ecosystem services in order foster proper action for example regarding trends and prioritization while also ensuring that IPBES' products begin on a sound and interoperable basis (IPBES/3/4, IPBES Task force on knowledge and data, including the draft data and information management plan (deliverables 1 (d) and 4 (b)). This systematized data can be then disseminated to various stakeholders through visualisation tools for sharing spatial data of ecosystem services and natural capital.

Tools may be needed to address trade-offs, which may arise between different ecosystems goods and services (Box D and Arrows 4 and 6). This is often done through mapping and valuing the goods and services provided by nature such as software for the determination of the water balance on different vegetation (Samper et al 1999) and tools for mapping benefits, beneficiaries, and service flows. Likewise, cost benefit analysis and multi-criteria analysis tools and methodologies can contribute to assess how biodiversity elements and ecosystems functions contribute to the wellbeing of people from an economic but also from a more inclusive perspective (Wegner and Pascual, 2011) (Arrow 4). At the national and sub-national level, the use of participatory tools and methodologies (Family 4) in governmental inquiries, involving the views of various stakeholders can help provide relevant information on different values of ecosystem services (Box D). As the IPBES scoping for the methodological assessment on the diverse conceptualization of multiple values of nature and its benefits, including biodiversity and ecosystem functions and services (Deliverable 3(d) IPBES/3/8) highlights, public deliberation methodologies involve processes of forming and changing values with possibilities for social learning.

In many societies there are strong inter-linkages between nature and quality of life through relational values designing and implementing legally binding instruments and policy support tools that go beyond instrumental benefits. For instance, the Akwé: Kon Guidelines (Voluntary guidelines for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities) (Family 5) can contribute to the use and protection of collective and public natural resources.

Policy support tools and methodologies are needed to assess how ecosystems goods and services contribute to a good quality of life of different people (Box E). Cost benefit analysis can put this perspective into an economic framework where wellbeing is associated with welfare and where intangible dimension are also acknowledged. Additionally, when distribution also matters, Equity Assessments (Family 2) can help understand how the distribution of benefits, costs and burdens of ecosystem management change (see Pascual et al., 2014) where distinct dimensions of equity are included that limit or facilitate access to nature's benefits to people. Equity Assessments can also contribute to understand procedural equity dimensions which entail the opportunities for participation of distinct groups in decision-making processes as well as to identify contextual equity dimensions which refers to the social dynamics of access and power that shape the capabilities to effectively participate and benefit from ecosystems goods and services (McDermott et al., 2012).

Community Protocols are tools that aim to foster equity in terms of nature's benefits to indigenous peoples and local communities (Family 5). This tool is based on statements about a local population's values and priorities that inform a good quality of life and outline the local procedures and conditions for engaging with governments and other stakeholders concerning their biocultural resources. Tools for fostering equity and non-discrimination need to be articulated with capacity building (Family 6) such as manuals identifying socio-ecological indicators relevant for indigenous peoples and traditional knowledge.

Good quality of life can be better understood with tools and methodologies that address distinct dimensions and scales. For example, international composite measures including health, education and income criteria developed at the international level, has been adapted for national. (Families 1 and 2) Index that allows comparisons between countries and shows differentiated notions of well-being and national index for measuring well-being in the country can be complementary tools (Families 1 and 2). At a more aggregate scale, there is also the Genuine Progress Indicator[i] (Families 1 and 2) that measures progress through improvements in well-being, not expansion of the scale and scope of market economic activity. Modelling and scenarios are relevant for understanding the consequences of change in biodiversity and ecosystems for nature's benefits to people and good quality as well as for better consideration and communication concerning of uncertainty in these dynamics (IPBES/3/INF/6, 20014). Loss of good quality of life caused by drastic changes in socio-ecological systems can have significant implications for institutions, governance and other indirect drivers (Arrow 7). One of the important characteristics of a system is its adaptive capacity to cope with uncertainty and drastic changes. Methodologies for assessing adaptive capacity can contribute to understand the inherent characteristics of institutions to change and continue to develop (Gupta et al 2010). .

## 2.5 Applications for the implementation of Multilateral Environmental Agreements (MEAs)

The IPBES catalogue on PSTMs can contribute to support common MEAs objectives. This is in line with the IPBES Busan Outcomes (Paragraph 7(a) ) and with the Joint Statement by the Biodiversity-related MEAs at IPBES-3. The Busan Outcome, which sets the path for establishing an IPBES, calls for the Platform to collaborate with existing initiatives on biodiversity and ecosystem services, including multilateral environmental agreements, to fill gaps and build upon their work, while avoiding duplication (Paragraph 7(a)), UNEP/IPBES/3/3, 2010).[§] Seven Multilateral Environmental Agreements focus on biodiversity and ecosystem services: the Convention on Biological Diversity (year of entry into force: 1993), the Convention on Conservation of Migratory Species, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (1975), the International Treaty on Plant Genetic Resources for Food and Agriculture (2004), the Ramsar Convention on Wetlands (1971), the World Heritage Convention (1972) and the International

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§ The representatives of Governments at the third ad hoc intergovernmental and multi-stakeholder meeting on an intergovernmental science-policy platform on biodiversity and ecosystem services convened in Busan, Republic of Korea, from 7 to 11 June 2010http://www.ipbes.net/images/documents/plenary/UNEP_IPBES_3/UNEP_IPBES_3_3/UNEP_IPBES_3_3_EN.pdf

Plant Protection Convention (1952).[**] The Joint Statement by the Biodiversity-related MEAs at IPBES-3 highlighted that "working closely together, IPBES and the Conventions can support our common objectives of the conservation and sustainable use of biodiversity and maintenance of ecosystem services for human well-being and also, contribute to a more coherent approach to international environmental governance and scientific overview, as well as building effective science-policy interfaces for biodiversity and ecosystem services at all levels". [††]

As the main target group in the IPBES catalogue is Target 4 including national level IPBES focal points, focal points of relevant international agreements, in this entry point, we focus on identifying some of their pressing needs in the implementation of MEAs. The objective of this entry point is not identifying people that can populate the catalogue with PSTMs' related information. Instead, this entry point is meant for fostering interest in accessing the catalogue and making it a useful contribution to address key challenges that Target 4 people face. This entry point can also support in identifying gaps in PSTMs.

Catalogue's applications for MEAs implementation

| Strategies, action plans and targets of MEAs |
| --- |
| Compliance, monitoring and enforcement of MEAs |
| National reporting of MEAs |
| PSTMs for national reporting for specific MEAs |
| PSTMs for cross-fertilization on reporting of different MEAs |
| Involvement of multiples scales in reporting |
| PSTMs for mainstreaming across sectors in reporting |
| Capacity building for implementation of MEAs. |
| Multi-stakeholder consultations for MEAs implementation |

**Strategies, action plans and targets of MEAs**

Addresses PSTMs including the global assessment of biodiversity and ecosystem services and other IPBES deliverables that can contribute to effectively inform the current and any successor to the Strategic Plan for Biodiversity 2011-2020, to which MEAs conventions have aligned their respective strategic plans. [‡‡] Likewise, these PSTMs aim to contribute to the process of implementing targets such as the Aichi Biodiversity Targets.

Identifies PSTMs including IPBES thematic assessments as well as those used in these and other IPBES deliverables that can support MEAs' strategies, action plans and targets as well as policy discussions in the conventions' governing bodies and at national or regional level. For example, the IPBES land degradation and restoration assessment (Deliverable 3(b)(i)), IPBES/3/7, 2014) can contribute complying with land degradation commitments under the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa and the Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat. [§§].

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[**] https://www.cbd.int/brc/default.shtml

[††] **IPBES-3 – Joint Closing Statement by the Biodiversity-related MEAs**
http://www.ipbes.net/images/documents/plenary/third/in-session/statement/20150117_Closing_Remarks_MEAs.pdf

[‡‡] The IPBES global assessment of biodiversity and ecosystem services will be of particular relevance for this purpose .The CBD Conference of the Parties, at its eleventh meeting, invited the Platform to prepare by 2018 a global assessment of biodiversity and ecosystem services building, inter alia, on its own and other relevant regional, sub-regional and thematic assessments, as well as on national reports. See also IPBES-3 – Joint Closing Statement by the Biodiversity-related MEAs http://www.ipbes.net/images/documents/plenary/third/in-session/statement/20150117_Closing_Remarks_MEAs.pdf.

[§§] IPBES-3 – Joint Closing Statement by the Biodiversity-related MEAs
http://www.ipbes.net/images/documents/plenary/third/in-session/statement/20150117_Closing_Remarks_MEAs.pdf

**Compliance, monitoring and enforcement of MEAs**

Supports the implementation of MEAs with PSTMs that help with the compliance, monitoring and enforcement of MEAs. Compliance with MEAs requires planning including inventory-related tools and methods such as inventories of soils, species, vegetation cover and ecosystems, as well as those related to social and economic issues, forest resources, tourism potential. Spatial modelling based on Geographic Information Systems (GIS) can be used in overlapping the data gathered through such inventories and for decision support systems. Systematic conservation and sustainable use planning and monitoring can aid in the operationalisation of MEAs' objectives. In terms of enforcement tools, for example guidelines on compliance with and enforcement of Multilateral Environmental Agreements (MEA) (UNEP, 2011) can help strengthen the implementation of MEAs and enforcement of national laws, regulations and policies. Likewise expert witnesses in court cases and public inquiries can contribute to providing evidence of, for example, the significant damage to nature brought by direct drivers such as pollution, habitat conversion and urbanization as well as contribute to highlighting how these direct drivers affect people's rights and livelihoods (ICHR 2009 a, b).

**National reporting of MEAs**

Identifies PSTMs that contribute to the reporting of specific MEAs as well PSTMs for cross-fertilization on reporting of different MEAs. PSTMs can support for example in aligning indicators including those being developed and used across the assessments carried out by IPBES as well as under MEAs (see IPBES/3/INF/22, 2014). PSTM such as those developed by the InforMEA Initiative involving MEAs and UN agencies involved in IPBES. PSTMs for the involvement of multiples scales in reporting and for mainstreaming across sectors in reporting are areas where the IPBES catalogue can also help address decision-makers' needs.

**Capacity building for implementation of MEAs.**

Identifies PSTMs used in IPBES global and regional assessment processes as well as specific IPBES capacity-building activities that are expected to improve knowledge and skills in the regions and sub-regions with benefits for effective and synergistic implementation of the MEAs, including capacity building-related PSTMs for a more holistic and better informed National Biodiversity Strategies and Action Plans.

Addresses PSTMs for developing the capacity to effectively implement MEAs including how to enhance intergenerational learning e.g. through the IPBES fellowship programme, and to support social learning through an effective engagement of indigenous and local communities, scientists and policymakers e.g. in the IPBES match-making facility (Task force on capacity-building (deliverables 1 (a) and 1 (b)), IPBES/3/3)).

**Multi-stakeholder consultations for MEAs implementation**

Addresses PSTM that enable participatory processes for fostering dialogue and negotiation for MEAs implementation. PSTMs regarding intercultural dialogue are important to enable exchange of views among different knowledge systems and among indigenous and local knowledge systems. In addition, when institutional assessments are required to overcome governance failures, PSTMs for multilevel learning processes can be applied for identifying structural characteristics of governance regimes.

PSTM such as consultations, public hearings and government established commissions with non-state organizations can be useful for the processes of participatory preparation for defining governmental positions in MEAs negotiations, establishing national biodiversity targets defining national biodiversity strategies. PSTM in the development of IPBES regional assessments will be an opportunity for social learning from inclusive processes to prepare these assessments with lessons learned for MEAs implementation at various scales.

## 3. A catalogue of policy support tools and methodologies by IPBES

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### 3.1 Rationale for the IPBES catalogue on policy support tools and methodologies

The IPBES catalogue is proposed as an innovative, dynamic, evolving online platform with two main goals:

(a)    to enable decision makers to gain easy access to tailored information on policy support tools and methodologies to better inform and assist the different phases of policy-making and implementation;

(b)    to allow a range of users to provide input to the catalogue and assess the usability of tools and methodologies in their specific contexts, including resources required and types of outputs that can be obtained, and thus help to identify gaps in tools and methodologies.

The outcomes of the catalogue reinforce the general rationale for IPBES namely to promote a functional dialogue and creates the conditions for inter-scientific dialogue among parties and relevant stakeholders in their efforts to conserve biodiversity and enhance ecosystem functions and services for the benefit of people; provide the biodiversity community and other relevant stakeholders with a set of policy support tools and methodologies to achieve the best policy outcomes and track indicators for monitoring of policy objectives and functions; and encourage government organizations, NGOs, policy communities, knowledge holders and local communities to actively engage in devising policies and programmes that address the issues of conservation and sustainable use of biodiversity and ecosystem services with scientific and credible data and information in place.

This chapter starts by explaining the role of the catalogue in the context of IPBES and other processes, before describing some considerations for the design, use and population of the catalogue and different options for its implementation.

## 3.2    Role of the catalogue in the context of IPBES and relevant processes and initiatives

The proposed catalogue is consistent with the mandate and functions of IPBES. Therefore, the catalogue should be relevant and useful for policy-making processes that are related to IPBES. These requirements are explored below, where we outline the interrelations between the catalogue and IPBES and other related policy-making processes relevant to biodiversity and ecosystem services.

### 3.2.1    Interrelations with IPBES

This section describes different approaches to identify relevant policy support tools and methodologies in IPBES processes (implementing the first part of the mandate on policy support tools and methodologies), including considerations of the roles and responsibilities of the IPBES plenary, its subsidiary bodies, its secretariat and its partners at all scales. Possible options, not mutually exclusive, include:

-    Ensuring that all IPBES assessments and other deliverables identify and assess the availability, effectiveness, practicability and replicability of current and emerging policy support tools and methodologies, and to identify related gaps and needs.

-    Identifying gaps and needs with relation to policy support tools and methodologies and enabling IPBES to present the different options available with regards to policy support tools and methodologies to decision makers with their related strengths and weaknesses.

-    Undertaking scoping meetings or horizon scanning among policy tools and methodologies assessing their availability, effectiveness, practicability and replicability at all levels especially at national level.

-    A suggestion that emerged from the September 2014 meeting of the IPBES Task Force on Capacity Building was that the new UNDP-managed BES-Net web portal could host the catalogue online, clearly branded as a standalone IPBES product within the broader portal.

This portal aims to facilitate access to the work of network participants who are developing capacity in the interface between science, policy and practice to support IPBES and to enable effective management of biodiversity and ecosystems worldwide, implementing the three Rio Conventions and related multilateral agreements in a way that contributes to long-term human well-being and sustainable development.

An offline prototype of the catalogue has therefore been designed on the BES-Net web-portal as a clearly identified IPBES product (logo and branding) during 2015, under guidance from IPBES.

In time, the catalogue of policy tools and methodologies may become an integral part of the BES-Net web portal, in which case it would be managed as a separate module by trained IPBES designated experts, following the required IPBES processes and principles.

The structure, management and monitoring of the prototype catalogue will adapt to meet the evolving needs of IPBES, as guided by the Expert group on policy support tools and methodologies, the IPBES Bureau and MEP, and under the coordination of the IPBES secretariat.

The interactive features of the BES-Net portal, including the feedback forms dedicated to the Catalogue, as well as the comments received on the use of the various policy support tools and methodologies featured on the web-portal through the dedicated comment and forum thread, as well as the analysis of the website visitors' use of the catalogue will be used and analyzed to help the identification of new and missing policy support tools provided by all catalogue users, in particular policy-makers.

The portal would put in place a process to ensure that these suggestions and requests would be directed to the appropriate IPBES bodies for review and assessment before any action is taken, such as uploading, thereby maintaining IPBES quality control over the content of the online catalogue. Building upon the large community of users that the web portal plans to develop across all scales and disciplines, using the web portal would help to ensure appropriate scanning and ease the assessment process for tools and methodologies.

The table below outlines interrelations between the catalogue and other IPBES deliverables. This table should be updated on a regular basis, taking account of any developments in the IPBES Work Programme.

Table 1.
**Interrelations between the catalogue of policy support tools and methodologies and other IPBES deliverables.**

| *How other IPBES deliverables should input into the catalogue* | *How the catalogue should contribute to other deliverables* |
|---|---|
| Capacity building (deliverables 1a and 1b): The Task force on Capacity Building should take into account capacity building needs as it relates to the development and up-take of new policy support tools and methodologies as well as to the use of existing ones which are particularly suitable for wider replication and or up-scaling. Ways and means need to be elaborated to identify and prioritize capacity building needs related to policy support tools and methodologies, as well as to provide and call for financial and other support for the highest priority needs. | The catalogue on policy support tools and methodologies should help provide relevant scientific and technical information and guidance needed to build the required capacity. The BES-Net web portal could be used to present the tools and methodologies in a user-friendly way that supports capacity building. The BES-Net portal allows for creating new content such as e-learning modules, as needed, and uploading short videos, leaflets, and presentations from users in a moderated fashion, which supports self learning and capacity building through a network approach. |
| Indigenous and local knowledge systems (deliverable 1c): The Task force on Indigenous and Local Knowledge Systems (ILK) should actively contribute to identifying policy support tools and methodologies that exist in indigenous and local knowledge systems with the view to include them in the guide and the catalogue of policy support tools and methodologies. The guide and in particular the catalogue should provide the means to better understand the importance to consider indigenous and local knowledge systems to build policy support tools and methodologies. | The guide and in particular the catalogue should provide the means to better understand and provide access to policy support tools and methodologies relevant to ILK and help integrate, synergise and complement policy-making processes. The BES-Net portal will include Indigenous Peoples and Local Communities as users and contributors, as well as ILK practitioners and experts. They would be used as resource people to provide access to existing tools and share them with a wide audience through outreach tools. |

| | |
|---|---|
| Generation, access and management of knowledge and data (deliverable 1d): The Task Force on Knowledge and Data would need to provide guidance on the use of indicators and as to be used in the context of policy support tools and methodologies relevant to IPBES. The Task force on Knowledge and Data may further consider providing access and/or management of knowledge and data needed to apply policy support tools and methodologies that are promoted by the Platform trough the Catalogue. The task force could also provide guidance on data standards to be used. | The catalogue should provide the means to better organize, store, manage and disseminate data and knowledge provided by the Task Force on Knowledge and Data in order to make it available for different users.<br><br>The BES-Net web platform plans to act as a gateway to data in specific thematic areas, tools and methodologies as well as communication products through linking to the websites and databases of a wide range of government and stakeholder partners. Data to be housed on the portal itself will be managed through a Content Management System, an integrated taxonomy and tagging system or ITTS to classify and link information, and appropriate storing arrangements. |
| Regional/sub-regional assessments (deliverable 2b) as well as global assessments (2c) The expert groups on these assessments should address and include assessments of policy support tools and methodologies. These assessments can play a major role identifying and assessing the availability, effectiveness and replicability of current and emerging policy-relevant tools and methodologies relevant to the scope of the assessments. Guidance on how to address the dimension of policy support tools and methodologies with these assessments should be included in the Assessment Guide (deliverable 2a). | Relevant work done and experience to be shared during the regional and global assessments should be included in and made available through the catalogue of policy support tools and methodologies.<br><br>BES-Net could host the catalogues of assessments online and plans to host/provide links to any relevant information accompanying the catalogue (meeting reports, guides, policy briefs and other training material). |
| Thematic assessments, such as those on pollination (deliverable 3a), land degradation and restoration (3bi), invasive alien species (3bii) or sustainable use (3biii): expert groups on thematic assessments should address or include policy support tools and methodologies. These assessments can play a major role in identifying and assessing the availability, effectiveness and replicability of current and emerging policy-relevant tools and methodologies relevant to the specific scope of the assessments. The consideration of policy support tools and methodologies should therefore also be addressed during the scoping of an assessment. Guidance on how to address the dimension of policy support tools and methodologies with these assessments should be included in the Assessment Guide (deliverable 2a). | Relevant work done by an assessment should be included in and made available through the catalogue of policy support tools and methodologies, including information on use possibilities and difficulties, gaps and needs for new tools, as well as information on existing tools not included so far in the catalogue.<br><br>BES-Net plans to host/provide links to any relevant information accompanying the catalogue (meeting reports, guides, policy briefs and other training material). If the catalogue of policy tools is housed on BES-Net, it is critical there is absolute clarity in terms of who provides content to the relevant sections, given the different processes to produce the information (peer- reviewed IPBES processes versus a moderated approach by BES-Net staff for specific outreach products suggested by users or developed by BES-Net itself.) Having dedicated pages with a very clear look and feel and the IPBES logo together with a short introduction could be an option to clarify this. |
| Deliverables such as the one on scenario analysis and modelling (deliverable 3c) and on diverse conceptualizations of value (deliverable 3d), both comprise a methodological assessment, and the anticipated promotion and catalyzation of the further development of relevant methodologies, are the most specific implementation mechanism of the policy support function of IPBES. | This guide and the catalogue will promote and facilitate the processes and procedures for the anticipated promotion and catalyzation of the further development of relevant methodologies. 3(c) and 3(d) should be considered as providing significant contributions to the catalogue of policy support tools and methodologies. |

### 3.2.2 Interrelations with relevant processes and initiatives

Opportunities to link with relevant processes and initiatives should be identified and should involve a two-way exchange of information. Taking the example of interrelations with the Convention on Biological Diversity (CBD), those responsible for the catalogue could:

- inform the CBD on the work on deliverable 4c and seek ways to further collaborate.

- draw on outputs of SBSTTA 17, GBO 4 and other relevant information (national reports, NBSAPs, CHMs) when populating the catalogue of policy support tools and methodologies.

- include information on the relevance of specific tools and methodologies to the Aichi Targets and have the Aichi Targets as a potential search filter/entry point in the catalogue.

- explore the possibility of COP side-events.

Additional processes and initiatives that could be explored further include other MEAs such as the United Nations Convention to Combat Desertification (UNCCD) the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Convention on Migratory Species (CMS), International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), and the Ramsar Convention on Wetlands and World Heritage Convention (WHC). Suggestions on possible interrelations include the options to:

- inform other relevant MEAs on the work on deliverable 4c and seek ways to further collaborate.

- draw on tools and methodologies that these conventions promote.

- organize a side-event at relevant COPs to present the catalogue once it has been developed and obtain feedback on its relevance to different MEAs.

### 3.3 Considerations for the design, use and population of the catalogue

In this section we outline some considerations for the design, use and population of the catalogue of policy support tools and mechanisms based on the beneficiaries/contributors to the catalogue, the goals and functions of the catalogue.

### 3.3.1 Beneficiaries of and contributors to the catalogue

Users of the catalogue will have a dual role as beneficiaries of and contributors to the catalogue. As mentioned earlier, the different users of the catalogue are not only decision-makers, but also practitioners and other social groups. In order to define the functionality of the catalogue in relation to the different users, different "target groups" based on the following general criteria are proposed:

More than an inert depository of tools and methodologies, the catalogue should be a "living" dynamic and interactive system with which all users have, to a greater or lesser degree, a two-way relation as beneficiaries and contributors;

The catalogue should be useful both to the technical and managerial bodies of IPBES and external beneficiaries, depending on their function within the platform or relationship to it.

Based on the above general criteria, *five main "target groups" of users* of the catalogue are proposed, each of which have different roles relating to the catalogue, and some of which may be part of more than one target group.

(a)     Target Group 1 – IPBES (Plenary, Bureau, MEP and Secretariat, task forces and expert groups): IPBES governing and administrative bodies are "internal users" as well as general administrators of the catalogue. In order to fulfil the above functions, this target group will oversee continued monitoring and updating of the catalogue. As such their roles include, amongst others, to:

(i)     Approve and adopt the catalogue, and support the implementation strategy; receive, evaluate, refine and systematize the information generated at various stages, and update the catalogue;

(ii)     Establish the internal links, via a business plan, to other functions of IPBES and to the specific actions and deliverables that are decided each year for IPBES based on a yearly review of the catalogue and its results;

(iii)     Decide on assessments on tools and methodologies for specific decision-making processes, ecosystems, regions, knowledge systems (including ILK), users groups, stakeholders or topics.

In order to fulfil these roles, IPBES needs to define a permanent follow up strategy that allows the directory bodies to gain analyzed information from the catalogue and to use it to update and improve its policy support function as well as the other functions of the Platform.

The roles of Task Forces, expert groups and ad hoc groups developing IPBES deliverables (see also section 4.2.1) will be to:

- Analyze and evaluate the catalogue towards final version (trial group);

- Provide examples of applications in different decision-making processes;

- Supplement the catalogue with tools not yet identified by expert group 4c., especially ones identified or recommended in the context of the Assessments;

- Propose new tools and methodologies;

- Identify needs in terms of communication, capacity building and knowledge systems (including ILK) required for successful use of the catalogue and its tools and methodologies.

(b)     Target Group 2 – Strategic Institutional partners of IPBES (e.g. CBD, UN system): Their main function will be to provide feedback on the catalogue and promote its use in their respective constituencies, through processes as defined by the organizations/conventions.

(c)     Target Group 3 – Knowledge holders on policy-support tools and methodologies (Expert groups under IPBES, universities, scientists and scientific organizations, indigenous and local knowledge-holders). Their main function will be to develop, update and populate the tool pages of the catalogue to ensure the credibility and relevance of the information available in the Catalogue. Group 3 will use the catalogue as a platform for broader networking.

(d)     Target Group 4 - Member Countries/Constituents: The member and observer countries of the IPBES, and their national, regional and local authorities, are anticipated to be the main users of the catalogue, as they have direct responsibility for the policies that aim to ensure conservation of biodiversity and related ecosystem services conservation and sustainable use. Member countries will use the catalogue actively in the context of specific political and administrative frameworks, help customize it and communicate and encourage its use. They will also support the Platform by providing regular feedback on the content and use of the catalogue.

Member countries have, among others, the following roles in relation to the catalogue:

- Analyze and evaluate the catalogue towards final version (trial group suggested) in the context of specific political and administrative frameworks, to help differentiate and customize the functionalities of the catalogue;

- Communicate and encourage the use of the catalogue by various public and private users, in different levels and decision-making processes, including national users of Target Group 5;

- Support the Platform in follow-up and monitor the use of the catalogue;

- Provide examples of applications;

- Identify opportunities, challenges and requirements for the use of the tools and methodologies;

- Suggest adjustments to the structure and functionality of the catalogue;

- Supplement the catalogue with tools not yet identified by expert group 4c.

(e)     Target Group 5 – Inter-scientific dialogue with other (potential) users: This very important group includes a wide variety of users (NGOs, conservation and development practitioners, indigenous and local communities, youth groups, businesses, local authorities, media etc) whose main roles will be to use, evaluate and provide feedback on the catalogue. The catalogue will provide a participatory platform that enables a wide range of users and knowledge holders (including ILK) to integrate their experiences and case studies.

### 3.3.2     Functions of the catalogue

This catalogue serves two sets of functions. The first is to give decision makers and those implementing the decisions easy access to information on policy support tools and methodologies, is considered the essential goal of the catalogue. For this a number of functions are needed to:

- Allow users to browse, search, identify and retrieve relevant policy support tools and methodologies, and information on them

    The catalogue will act as a "one-stop-shop" for information on policy-support tools and methodologies. All policy support tools and methodologies will be listed in the catalogue and made accessible to users. In addition, users will be able to search for specific policy support tools according to their individual needs and requirements using different entry points or filters (see function below). Information in all policy

support tools and methodologies will include to general information on the type of tool, its applicability and functions, but also information on the usability (according to other users themselves) of the policy support tool. If the catalogue were hosted on the BES-Net web portal, it could draw on the portal's objective to facilitate access to the work of network participants who are developing capacity in the interface between science, policy and practice – to support the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and to enable effective management of biodiversity and ecosystems worldwide, implementing the three Rio Conventions and related multilateral agreements in a way that contributes to long-term human well-being and sustainable development. Housing the catalogue within the portal will build on the principle of the planned BES-Net portal not to duplicate effort, but to provide a "one-stop shop" that harnesses the energy generated by the new IPBES Platform, and creates synergy between the efforts and online work of all participants in a capacity building network, building on the proposed approach to networking outlined in the Draft Work Programme.

- Allow the design of online functionality for the target groups

  The catalogue will be designed from the perspective of user's needs and requirements. The aim is to make the catalogue as accessible as possible in order to ensure its use by decision-makers, thereby potentially improving the quality of ensuing decisions.

- Strengthen networking of users

  The catalogue will have a strong networking function, allowing for users working with policy support tools and methodologies to identify each other more readily and share experiences of developing or using policy support tools with peers. Part of the networking function of the catalogue will be to enable users to find peers, and discover the policy support tools they are using in their work. This will allow users to better understand existing tools, and how new tools could be needed or applied in their work. Contact information could be made available on the catalogue tool information sheets to allow exchanges between peers.

The second goal of the catalogue is to allow users to input tools and methodologies from their specific contexts, for others to assess their usability. This will be the role primarily of target groups 3, 4 and 5. This process will help identify gaps in tools and methodologies in order to spark the development of new ones. To achieve this goal, the catalogue should:

- Allow for submission of information on policy support tools and methodologies

  Users of the catalogue will be able to submit information on policy support tools. This information will be two-fold: content relating to policy support tools (by suggesting new policy support tools that should be integrated into the catalogue, or adding content to existing policy support tools); and experience of policy support tools (see below).

- Share lessons learned

  Users of the catalogue will be encouraged to assess policy support tools by sharing their experience of and identifying lessons learned from and limitations of using policy support tools and methodologies. Their experience will include feedback among users and between users and developers of tools (see also section 3.3.4) on the context within which the policy support tool was used, the scale of application (both spatial and governance scale) and the history of use of the policy support tool and methodology. Each lesson learned will provide both quantifiable and in-depth and information relating to the policy support tool. Lessons learned will relate to cost-effectiveness; adaptability to different contexts; equity and user-friendliness.

- Allow for ongoing monitoring and evaluation of the catalogue

  Mechanisms will be put in place to monitor and evaluate knowledge products and track the effectiveness of the catalogue in meeting its objectives, particularly its effectiveness in bridging the gaps between science, policy and practice. In particular it will be important to find ways of measuring the impact of participation in the portal on users' capacity – at the individual level, but also at the level of the organizations and institutions to which they belong, and in turn on the larger processes of which they are a part. One potential tool for monitoring could be the use of annual surveys, distributed through the email network of registered users. Such surveys could provide space for qualitative as well as quantitative feedback on the use and impact of the site on

individual users' and network participants' capacity. Question for ongoing evaluation would include:

- To what extent is the catalogue's operation helping to bridge the gaps between science, policy and practice?

- To what extent is the catalogue providing support to the work of the IPBES Platform in building Member states' and other stakeholders' capacity to generate knowledge and contribute to assessments?

- To what extent has the portal facilitated access by network participants to each other's information, data, knowledge, publications, assessments, policy-relevant tools and methodologies, and to fill specific knowledge gaps?

- Provide information to the IPBES plenary

Annual reports to Plenary will outline the results of the lessons learned and progress with the catalogue. This will allow IPBES to identify gaps in tools and methodologies and develop new ones.

### 3.3.3    Contents and quality control

The catalogue will be an evolving facility helping to achieve the Platform's objective, capable of adapting to an ever-changing context. This will be achieved by designing the catalogue to facilitate collaborative content creation, maintenance, support and quality control.

The catalogue has four different layers of content, each of which should be maintained by relevant stakeholders or target groups. The overall responsibility of the Catalogue would lie with the IPBES Plenary, with IPBES Member governments and other stakeholders invited to contribute proposals of tools and methodologies, with associated examples and resources, to be considered for inclusion in the Catalogue.

At the core of the Catalogue is a policy support tool and methodology list created and organized according to the seven families of policy support tools and methodologies, administered and periodically revised by the IPBES Secretariat and its permanent team of experts (Target Group 1). Each tool will be presented in detail in the catalogue, including: its purpose and function(s), the match between the tool and the IPBES framework, the resources and skills needed for its application, the stage of the policy cycle at which the tool could be applied, the context(s) in which the tool has been or could be used, and supporting literature or resources (see Figure 5, Appendix 2 for the template for adding a new policy support tool or instrument, and Appendix 3 for examples of specific policy support tool screenshots).

The applications/case studies represent practical examples of how a given tool or methodology can be applied, and are to be administered by knowledge holders specialized in designing or applying it (Target Group 3 and 4). The catalogue will not be complete if it is deprived of ways of receiving input and feedback from users belonging to the broader community (Target Group 5). This public feedback layer has the highest degree of permeability and allows any registered users of the catalogue to assess, comment, and propose new content regarding specific policy support tools or methodologies.

Different groups will have different roles in content generation and quality control. In terms of content generation, policy makers and other key stakeholders, including ILK (target groups 3-5) are to play a critical role in updating the catalogue, providing applications, case studies, resources to and feedback of the catalogue. The knowledge captured in the catalogue should have sufficient clarity for someone else to repeat the same processes. The knowledge holder is the key actor for inputting the information because s/he can document the tacit knowledge or know-how that makes the tool useable for the policy makers. Collection of the knowledge from the first-hand user will also shorten the learning curve of the catalogue users by outlining the most effective way of using the tool or methodology. The knowledge storage system will be flexible enough to allow various kinds of tools and methodologies to be added into the catalogue. The structure of the catalogue will be in line with the typology of policy support tools and methodologies defined in Chapter 2. The catalogue's storage system will support the conceptual framework of IPBES (see Chapter 2). Thus, the policy tools and methodologies stored in the catalogue will be relevant to IPBES. This link between the structure of the catalogue and the IPBES conceptual framework will enable distinct stakeholders to benefit from the catalogue, and include different types of tools and methodologies in the catalogue. Finally, the catalogue will be user friendly, simple and widely accessible to different types of users, with special consideration to those with limited internet access to enable all users to generate content in the catalogue.

Among the different content levels and user categories, a flexible, adaptable and self-correcting living catalogue will develop, both internally consistent and open to improvement.

### 3.3.4    Proposed structure of the catalogue

The most feasible option for the implementation of the Catalogue is to nest it within the Biodiversity and Ecosystem Services Network (BES-Net) web portal currently being developed by UNDP. Discussions on how this might be done are ongoing.

As per the suggestion to nest the Catalogue within the Biodiversity and Ecosystem Services Network (BES-Net) web –portal developed by UNDP, an offline prototype of the catalogue has been designed on the portal.

This portal aims to facilitate access to the work of network participants who are developing capacity in the interface between science, policy and practice to support IPBES and to enable effective management of biodiversity and ecosystems worldwide, implementing the three Rio Conventions and related multilateral agreements in a way that contributes to long-term human well-being and sustainable development. The proposed catalogue of policy tools and methodologies could become an integral part of the BES-Net web portal, but managed as a separate module by trained IPBES designated experts, following the required IPBES processes and principles, and clearly visible as an IPBES product (logo and overall branding).

The structure, management and monitoring of the prototype catalogue will evolve to meet the needs of IPBES, as guided by the Expert group on policy support tools and methodologies, the IPBES Bureau and MEP, and under the coordination from the IPBES secretariat.

The guidance received from the last IPBES Bureau and MEP meeting as well as from the IPBES Plenary during IPBES-4 will be used to develop the next version of the catalogue in 2016.

The policy support tools and methodologies will be accessed in the catalogue through four different entry points that can be used individually or collectively, to refine the level of the search for policy support tools and methodologies.

These entry points, as defined in Chapter 2, will be:

- Families of tools

- Elements of the policy cycle

- IPBES conceptual framework

- Applications for the implementation of MEAs

- IPBES Deliverables

In addition to these entry points, users of the catalogue will be able to access different search criteria, including:

- Link to IPBES Deliverables

- Aichi Targets

- Biological or Ecological context

- Scale of application

- Type of user

- Tool or methodology

The aim with the above entry points and search criteria is to allow a range of users to access the catalogue in the most relevant manner, thereby enabling users to access the information they require on policy support tools and methodologies. Depending on the level of detail supplied by users, or the terms used in the Search engine of the catalogue, a range of adapted tools and methodologies will be made available. The users can then filter the tools and methodologies according to their needs or limitations. The individual pages of the catalogue will supply a description of the tool or methodology, some key references of resources, and a list of case studies where the tool or methodology was applied, and lessons learned. There will also be a more interactive part of the pages where users can link up with users or developers of the tools to learn more and network.

### 3.4 Strategy for implementation of the catalogue

The implementation of an initiative, such as the catalogue proposed here, that aims to bridge the gaps between science, policy and practice should be conducted through active two-way communication between providers of information and beneficiaries of this information (Young et al., 2014). Based on the above considerations on the design, use and population of the catalogue, below is a summary of the key elements needed to ensure this continued two-way exchange.

The content of the online catalogue will enable beneficiaries to re-use available knowledge. Generation of content should serve the main purpose of the catalogue which is supporting learning. Knowledge management systems usually fulfil two types of learning goals: (i) knowledge re-use and (ii) knowledge creation (Aggestam, 2007). These include knowledge of different knowledge systems, including ILK. The knowledge production as such is not the purpose of the catalogue but the synthesis and information exchanges for the policy-makers, practitioners and other potential users are the primary target of the catalogue. In the context of IPBEs therefore Knowledge Management System would follow a cycle of knowledge gap identification, knowledge gathering, knowledge synthesis, knowledge application and knowledge evaluation and back to knowledge gap identification.

Content generation needs to be linked to IPBES and other relevant process to access knowledge effectively and sustainably. The knowledge available in the catalogue has to be up-to-date to serve the users. The inputs are expected from the deliverables of regional and thematic assessments in different contexts and at various scales. Knowledge holders all around the world have to continuously improve the available policy support tools and methodologies or add new tools. Therefore, content generation is not a one-time process but a continuous one. Feeding into the catalogue with current available knowledge therefore has to be linked with IPBES work programme as well as the eventual adaptation of the conceptual framework to ensure continued input of relevant knowledge generators. Synergies are expected from catalogues of other relevant processes including MEAs and intergovernmental science-policy interfaces.

To ensure the robustness of the catalogue, the IPBES secretariat will administer the catalogue with technical support from BES-Net. Overall responsibility for the catalogue will lie with the IPBES Plenary, with support from Member States and stakeholders. A group of 2-3 editors, consisting of MEPs, will oversee the quality control of the content of the catalogue. These editors will, in turn, be supported by moderators, who initially might consist of the experts from Deliverable 4c, but will in future be nominated by the Plenary. Each family of tools and methodologies will have 2-3 moderators. The moderators and editors will meet three times a year virtually and one face-to-face meeting. These meetings will aim to discuss the range of policy support tools and methodologies on the catalogue, gaps in information (for specific tools and methodologies, and families of tools and methodologies), suggested new tools and methodologies and future strategy to populate and disseminate the catalogue.

Population of the catalogue would involve a step-wise approach. Initially, communication will be among a core team of experts from within IPBES (Target Group 1), who will be responsible for inputting initial draft content, and evaluating the catalogue structure and draft content. Following on from this, there will be a trial and error stage with a broader range of users (Target Group 3) and a presentation of the Catalogue in intergovernmental meetings (Target Group 2). The feedback received in these meetings will be incorporated into the catalogue development, and discussed within the core group of experts (Target Group 1). Once the catalogue is deemed fit for purpose, a longer period aligned with the timeline for the other IPBES deliverables will be set aside to provide induction and training for the use and feedback of the catalogue by "specialized" types of stakeholders, reflecting the users targeted in the catalogue (Target Groups 4 and 5). Continual efforts will be made to interface with other IPBES Expert Groups and Task Forces to ensure synergies between all inter-related IPBES deliverables.

To ensure the above step-wise approach for population of the catalogue, and the updating and support of the catalogue, it is proposed to continue the work of the expert group on the catalogue of policy support tools and methodologies in 2015/2016.

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