



IPBES Assessment and Challenges for Socio-ecological Systems Research

IPBESのアセスメントの最新動向と社会・生態システム研究の挑戦

日本生態学会
IPBES自由集会

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Outline

- 1. Assessment Landscape**
- 2. Millennium Ecosystem Assessment (MA)**
- 3. Intergovernmental Platform for Biodiversity and Ecosystem Services (IPBES)**
 - Background of IPBES
 - Functions and structure of IPBES
 - IPBES assessments
 - IPBES Plenary Meetings
- 4. Challenges for IPBES Assessments and Socio-ecological Systems Research**

1. Global Assessment Landscape

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GIWA										
MA										
WWDR				WWDR2			WWDR3			
FRA2005						FRA2010				
LADA										
IPCC3		IPCC4							IPCC5	
				GB02			GB03			
CAWMA										
GEO2	GEO3		GEO4						GEO5	
						IAASTD				
							AoA(GMA)			

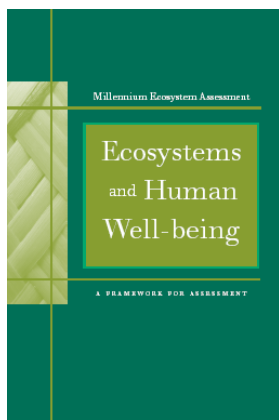
GIWA – Global International Water Assessment; **MA** – Millennium Ecosystem Assessment; **WWDR** – World Water Development Report; **FRA** – Forest Resources Assessment; **LADA** – Land Degradation Assessment; **IPCC** – Intergovernmental Panel on Climate Change; **GBO** – Global Biodiversity Outlook; **CAWMA** – Comprehensive Assessment of Water Management in Agriculture; **GEO** – Global Environmental Outlook; **IAASTD** – International Assessment of Agricultural Science and Technology for Development; **AoA (GMA)** – building the foundations for Regular Process for the Global Reporting and Assessment of the state of the marine environment, including socio-economic aspects.



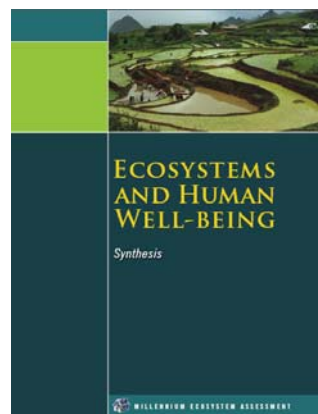
(Source) A.K. Duraiappah (2009) Ecosystem Services: The Global Assessment Landscape

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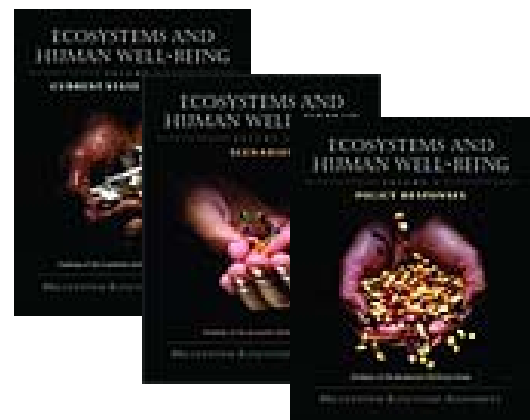
2. Millennium Ecosystem Assessment (MA)



First MA Product (2003)



MA Synthesis Report (2005)

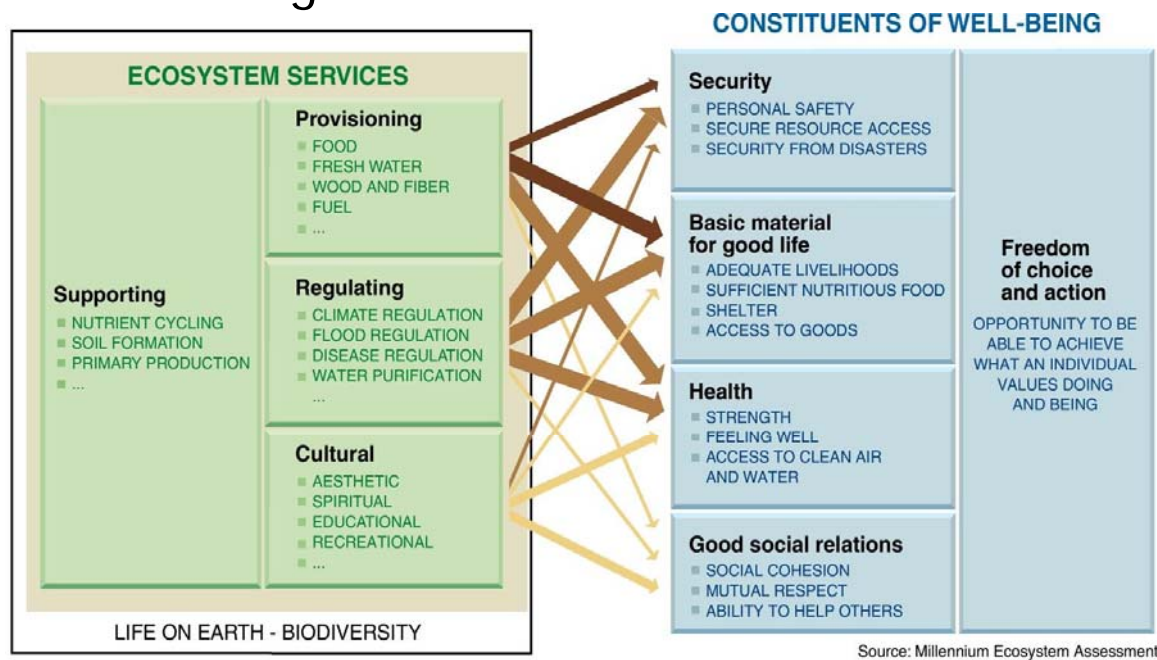


MA Full Reports (2005)

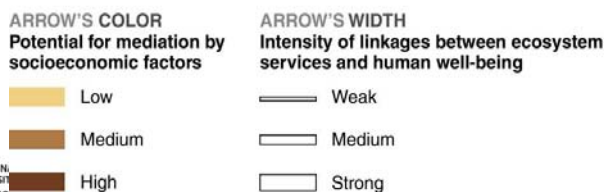
The Millennium Ecosystem Assessment is:

- ▣ Designed to meet a portion of the assessment needs of
 - Convention on Biological Diversity (CBD),
 - Convention to Combat Desertification (CCD),
 - Ramsar Wetlands Convention,
 - other partners including the private sector and civil society
- ▣ Focused on the consequences of changes in ecosystems for human well-being
- ▣ Undertaken at multiple scales (local to global)
- ▣ Designed to both provide information and build capacity to provide information
- ▣ Expected to be repeated at 5-10 year intervals if it successfully meets needs

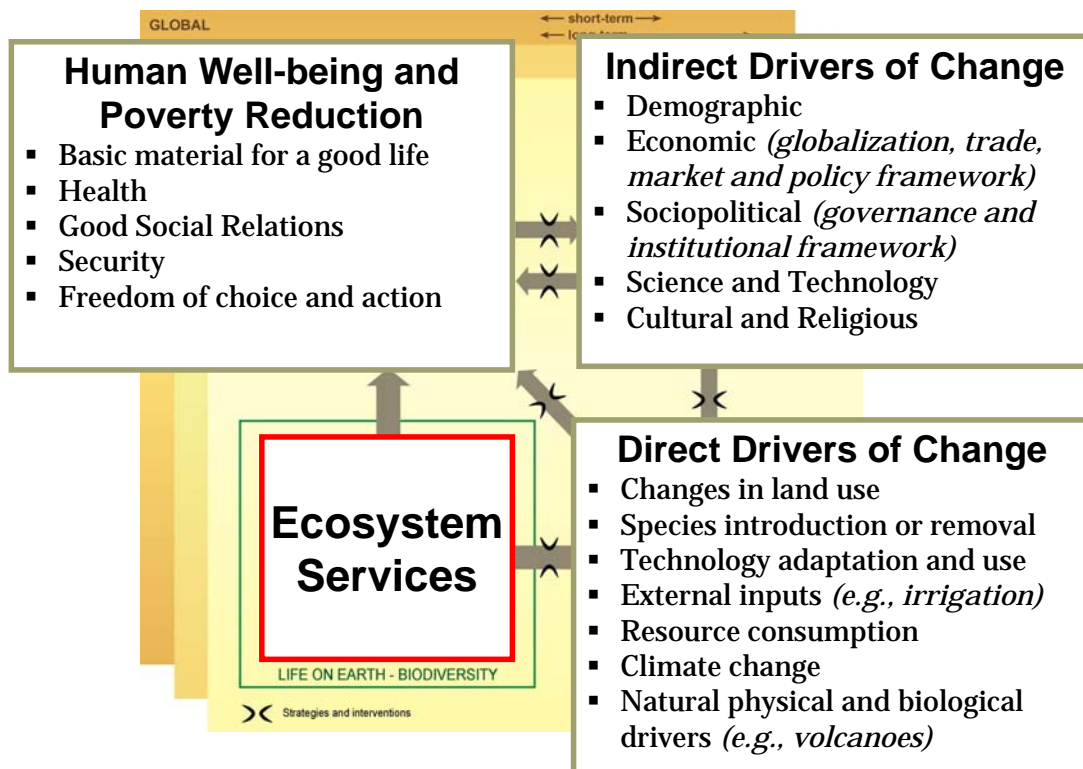
MA Focus: Consequences of Ecosystem Change for Human Well-being



Source: Millennium Ecosystem Assessment

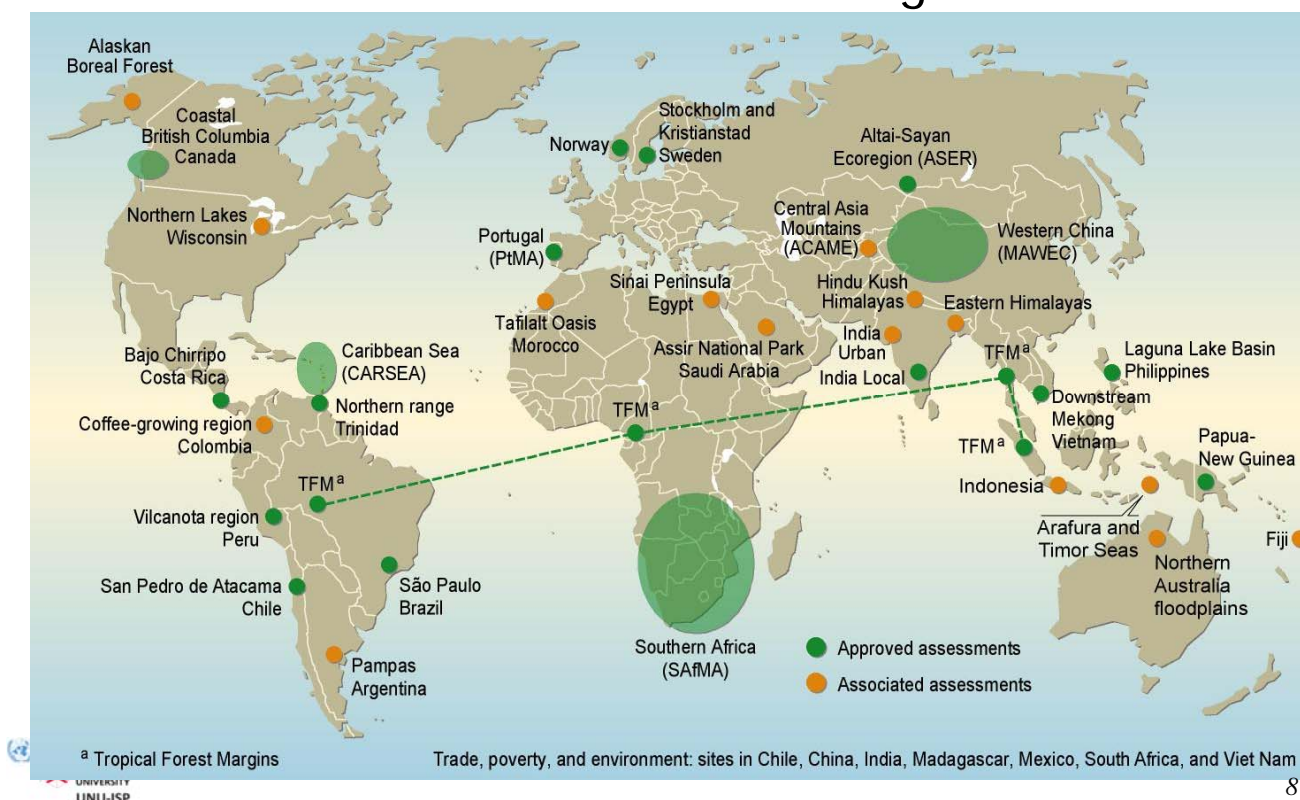


MA Framework



Multi-scale assessment

- Includes information from 33 sub-global



3. Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

Background Context of IPBES

Scientific Background:

- Many ecosystem services related assessments
- But only one focused solely on ecosystem services and human well-being
- Fragmented, multiple frameworks and methodologies
- Scientific credibility varies

Institutional Background:

- Three ad-hoc intergovernmental and multi-stakeholder meetings on IPBES held between 2008 and 2010.
- In Busan, Republic of Korea (June 2010), Governments agreed to establish IPBES, with the four work programme areas:
 1. Knowledge generation
 2. Regular and timely assessments
 3. Support policy formulation and implementation
 4. Capacity building



(Source) A.K. Duraiappah (2009) Ecosystem Services: The Global Assessment Landscape

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What will IPBES do?

- IPBES will respond to requests for scientific information related to biodiversity and ecosystem services from Governments, relevant multilateral environmental agreements (MEAs) and United Nations bodies, as well as other relevant stakeholders. Governments have agreed that the **four main functions** of IPBES will be:
 - To identify and prioritize **key scientific information** needed for policymakers and to catalyse efforts to **generate new knowledge**;
 - To perform **regular and timely assessments** of knowledge on biodiversity and ecosystem services and their interlinkages;
 - To **support policy formulation and implementation** by identifying **policy-relevant tools and methodologies**;
 - To prioritize key **capacity-building** needs to improve the science-policy interface, and to provide and call for financial and other support for the highest-priority needs related directly to its activities.
- **“Policy relevant, but not policy prescriptive”**

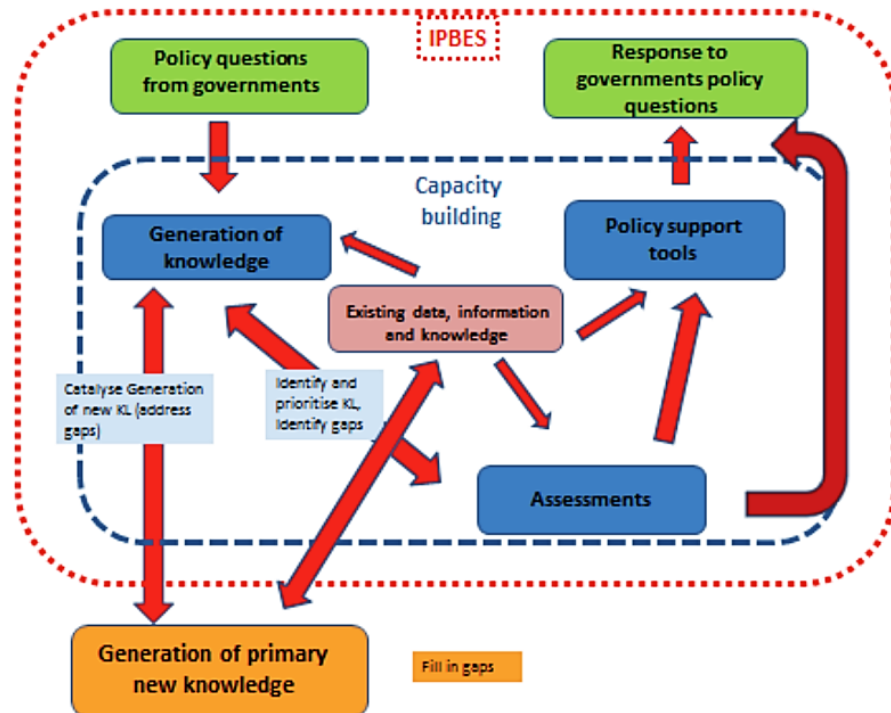


(Source) <http://ipbes.net/about-ipbes/index.php>

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The Four Functions of IPBES

- ◆ The IPBES process is contained within the dotted red line.
- ◆ The 4 functions of IPBES are represented by blue boxes, the capacity building (dotted blue box) being larger, and around the 3 other functions (Generation of knowledge, Policy support and Assessments), to acknowledge the fact that capacity needs to be built for all functions of IPBES.



IPBES Assessments

1st Tokyo Workshop on IPBES Assessments at UNU, 25-29 July 2011

- Objective: To provide suggestions on **the scope and nature of IPBES assessments** and the number and type of working groups needed to effectively carry out these assessments.
- Scientists from the international assessment community submit **the Information Document (UNEP/IPBES.MI/1/INF/12)** for the first session of the IPBES plenary in Nairobi.
 - English: http://jncc.defra.gov.uk/pdf/IPBES_Tokyo_Final-Report-07-11.pdf
 - Japanese Summary: http://www.env.go.jp/press/file_view.php?serial=18235&hou_id=14197



Assessment Principles

Principle 1: Saliency

Assessments need to be policy relevant, addressing complex issues of social concern

Principle 2: Scientific Credibility of the assessment, ensured by the rigour of the process and the quality of the participants – independent review panel;

Principle 3: Scientific Independence

The assessment process must be independent of any political and/or special interest groups – Establish science panel;

Principle 4: Trans-disciplinary, regional and gender balanced (Inclusiveness), promoted by a broad demographic, geographic, disciplinary and knowledge-system base, equity;

Principle 5: Legitimacy, through being governed and tasked by an authorised and representative mechanism; and

Principle 6: Equity (capacity building)

Scientific capacity for carrying out assessments needs to be developed in an equitable manner across the globe.



Key Considerations

Consideration 1: Establish regional consultative groups;

Consideration 2: Establish an independent review panel;

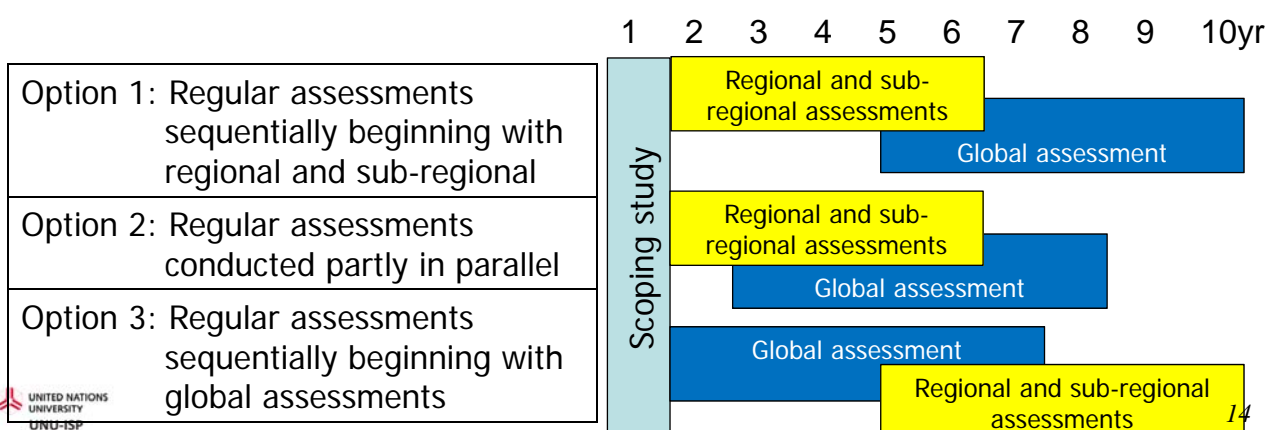
Consideration 3: Establish a science panel;

Consideration 4: Capacity building;

Consideration 5: Development of a conceptual framework;

Consideration 6: Establish a working group on assessments;

Consideration 7: Duration and cycle of regular assessments;



Considerations

Consideration 8: Regional and sub-regional working groups;

Consideration 9: The identification and assessment of thematic issues (**Thematic assessment**);

Consideration 10: Identification and assessment of new issues (**Preliminary assessments**);

Consideration 11: Joint sub-working group on data and indicators (in collaboration with the knowledge generation WG);

Consideration 12: Global biodiversity and ecosystem services observation system [IPBES commissions GEO BON* to develop a global biodiversity observation system];

Consideration 13: Joint technical working group on scenario models and uncertainty; and

Consideration 14: Self-review.

Features of the Assessment Process

- ◆ **Transdisciplinary** by contributors from appropriate and diverse disciplines
- ◆ **Multi-authored** by contributors from relevant disciplines with diverse geographical experiences;
- ◆ **Transparent** through the governance of the process, the selection of authors and reviewers;
- ◆ A **multi-stage, rigorous and documented** review process is followed;
- ◆ Accommodate **multiple knowledge systems** by developing guidelines on how to access, evaluate, document, and protect different forms of **Local and Indigenous Knowledge Systems (LINKS)**
- ◆ Material assessed is **evidence-based**, tested and in the public domain; and
- ◆ Entire process is designed to be highly **consultative and inclusive**.

IPBES Plenary Meetings

1st session held on 3-7th October 2011, Nairobi

- 112 Governments, 6 MEAs, over 50 observers orgs
- Focus on modalities and institutional arrangements



2nd session to be held 16-21st April, Panama City

- Resolve modalities and institutional arrangements in order to "fully operationalize the platform"



Outcomes of 1st session (1/2)

1. **4 main functions** (knowledge generation, assessments, policy support, capacity building)
2. **Operating principles of the platform**, stating that the platform should:
 - Collaborate with existing initiatives;
 - Scientifically independent, credible, relevant and legitimate;
 - Policy-relevant but not policy-prescriptive;
 - Recognise regional contexts and needs;
 - Full and effective participation of developing countries;
 - Interdisciplinary and multidisciplinary approach;
 - Respect the contribution of indigenous and local knowledge; and
 - Others...

Outcomes of 1st session (2/2)

3. Functions and structures of bodies that might be established under the platform
 - Institutional arrangements for the platform
 - Plenary (membership, functions, officers etc.)
 - Administrative and scientific functions of subsidiary body/bodies
 - Options for expanded bureau vs. bureau and science panel
 - Financial and other contributions
 - Evaluation of the operation of the platform
4. Legal issues relating to the establishment of the platform
5. Rules of procedure of the meetings of the platform
6. Work programme of the platform
7. Process and criteria for selecting host institution/ institutions, physical location of secretariat



2nd session of a plenary meeting on IPBES Agenda: 2nd session in Panama

Modalities and Institution Arrangements

- Work programme
- Functions and structures of bodies that might be established
- Rules and procedures for the platform (Plenary, additional procedures)
- Selection of physical location of the secretariat
- Selection of the host institution(s) of the secretariat
- Budget
- Legal issues relating to the establishment of the platform



Work programme (UNEP/IPBES.MI/2/2)

Work programme functions agreed upon in the Busan outcome

1. Assessments
2. Knowledge generation
3. Policy support tools and methodologies
4. Capacity-building
5. Integrating the four work programme functions

Potential activities for inclusion in the work programme

1. Understanding of the assessment landscape
2. Developing and adopting consistent assessment methods and approaches
3. Carrying out global and regional assessments
4. Catalysing and promoting national and subregional assessment activities
5. Carrying out thematic assessments and assessment of new topics identified by science
6. Identifying and prioritizing gaps in knowledge
7. Engaging key stakeholders in addressing prioritized knowledge needs
8. Partnerships with long-term observation and monitoring programmes

9. Making effective use of modelling and scenarios
10. Identifying policy-relevant tools and methodologies
11. Improving access to policy-relevant tools and methodologies
12. Promoting and catalysing the further development of policy-relevant tools and methodologies
13. Identifying and prioritizing capacity building needs
14. Catalysing funding for capacity building activities
15. Increasing access to data, information, and knowledge
16. Addressing balance in participation in the platform's work programme

Functions and structures of bodies

- ◆ Functions and structures of bodies that might be established under IPBES (UNEP/IPBES.MI/2/3)
- ◆ Building on the negotiations at the 1st session of the plenary meeting, decisions are expected on:
 - Membership of the plenary
 - Participation of UN bodies and other intergovernmental and non-governmental organizations
 - Options for the structure and composition of subsidiary bodies of the plenary (e.g. expanded bureau vs. bureau and science panel, working groups)
 - Secretariat (central vs. distributed)



(Source) Makiko Yashiro (2012) IPBES: Towards full operationalisation, 2nd Tokyo Workshop on IPBES Assessment, Tokyo, 27 February 2012.

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Rules and procedure

- Rules of procedure for the meetings of the platform's plenary (UNEP/IPBES.MI/2/4)
- Agreements expected on rules and procedures that are critical to establish a platform and organize 1st plenary meeting (members and observers, representation, credentials and accreditation, officers of the Bureau, conduct of business, decision making, etc.)
- Other procedures (financial, receiving and prioritizing requests, **preparing assessments and accepting, adapting and approving scientific reports**, conflicts of interest policy, **peer-review process** etc.) may be discussed at the next meeting



(Source) Makiko Yashiro (2012) IPBES: Towards full operationalisation, 2nd Tokyo Workshop on IPBES Assessment, Tokyo, 27 February 2012.

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2nd Tokyo WS on IPBES Assessments at UNU, 27-29 Feb. 2012

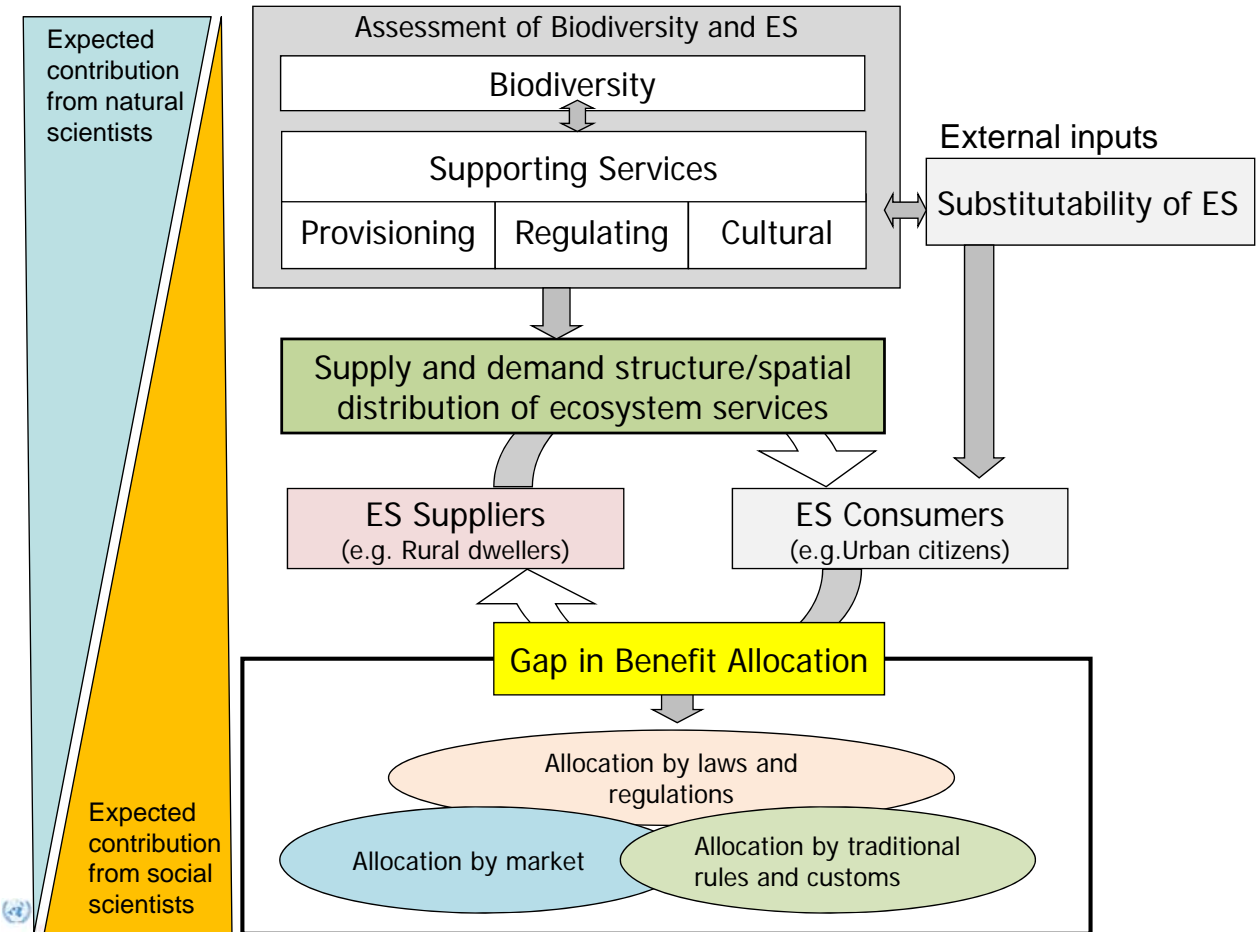
- The outcome document will be submitted as Information Document to 2nd IPBES plenary in Panama City
- This document with the global survey results will be available in a press release by Ministry of Environment, Japan.
- **4 Key messages:**
 - Key Message 1: Ensure a bottom up and integrated programme of work
 - Key Message 2: Establish a transdisciplinary common conceptual framework to guide the work programme
 - Key Message 3: Establish a governance structure and rules of procedures that ensure scientific independence and credible review processes
 - Key Message 4: Ensure equitable and inclusive participation for IPBES
- **10 Recommendations:**
 - 4 recommendations about the work programme of the platform
 - 4 recommendations about functions and structure of IPBES
 - 2 recommendations about rules of procedures for IPBES plenary

4. Challenges for IPBES Assessments and Socio-ecological Systems Research

1. Mobilizing not only natural scientists, but also social scientists
2. Develop an common conceptual framework for global to regional assessments
3. Develop common metrics and inventory data for all level of assessments
4. Multi-scale, spatial and temporal dimensions
 - Place-based ecosystem services vs. global market, global climate changes, complexity of human dimensions
 - Spatial and distributional structure, allocation and process between ecosystem service (ES) supplier and ES consumers

Typical Ecosystem Services and Spatial Scales

生態系サービス Ecosystem Services	スケール Scales					
	産地の集落・農山村 Community	都道府県 Provincial	広域ブロック 流域圏 River basin	全国規模 National サブリージョナル Sub-regional	国外 transnational	
					リージョナル Regional	グローバル Global
供給サービス	木材					
	燃料					
	食料					
	飲料水					
調整サービス	気候調整	グローバル				
		地域				
	洪水緩和					
水の浄化						
文化サービス	精神的価値					
	審美的価値					
	教育的価値					
	レクリエーション					



5. Valuation (economic and non-economic) changes with scale and society
6. Integrate global (generalized) and regional (diverse) scope, include cultural diversity
7. Analyze trade-offs and co-benefits relations across scales, different ecosystem services, human well-beings
8. Include non-scientific and traditional knowledge vs. Ensure scientific credibility
9. Science-policy interface: policy relevance; policy support (UNEP/IPBES.MI/2/2)
 - Making effective use of modelling and scenarios (with and without policy interventions)
 - Identifying policy-relevant tools and methodologies
 - Improving access to policy-relevant tools and methodologies
 - Promoting and catalysing the further development of policy-relevant tools and methodologies

Interviews of Key IPBES Researchers

(Recorded on 29 July, 2011, UNU-Headquaters)



[Anantha K. Duraiappah](#)

Executive Director of the International Human Dimensions Programme on Global Environmental Change (IHDP)

→<http://www.youtube.com/watch?v=-vKxJfxNVYU&feature=relmfu>



[Harold Mooney](#)

Paul S. Achilles Professor of Environmental Biology, and FSI Senior Fellow, Stanford University

→<http://www.youtube.com/watch?v=DALl9OVyQdk&feature=relmfu>



[Albert van Jaarsveld](#)

President and CEO of the National Research Foundation, South Africa

→<http://www.youtube.com/watch?v=T9-mRa1zcPY&feature=relmfu&noredirect=1>

Communication tools

1. IPBES website www.ipbes.net
2. Email updates: register!
3. Follow IPBES on Twitter :
<http://twitter.com/#!/ipbes>
4. Frequently Asked Questions (on IPBES website)

Acknowledgements

Tokyo workshops on IPBES assessments, side event at IPBES plenary in Nairobi, and the global survey were sponsored by the Ministry of Environment, Japan. The information documents developed through the workshops were the collective outcome by all participants and colleagues.