Capacity Building Workshop – National Ecosystem Assessments Using the IPBES Process and Approaches in the Greater Mekong Sub-region

Workshop Report

28th September – 1st October 2015

Ministry of Natural Resources and Environment (MONRE), Hanoi, Viet Nam

A Sub-Global Assessment Network workshop convened by UNEP-WCMC, in collaboration with UNEP Regional Office for Asia and the Pacific (UNEP ROAP).

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Executive Summary

This report presents proceedings from a capacity building workshop for assessment practitioners from the Greater Mekong sub-region. The workshop illustrated the value and rationale for undertaking a national ecosystem assessment, provided new ideas about how a national ecosystem assessment can be used to instigate policy and behavioural change, and provided information on how national ecosystem assessments can contribute to assessments under IPBES. The four-day workshop ran from the 28th of September to 1st of October 2015, and was held in Hanoi, Viet Nam. Twenty-eight participants attended from three countries in the Greater Mekong Sub-region (Cambodia, Thailand, and Viet Nam), as well as representatives from sub-regional organisations, including the United Nations Environment Programme – International Ecosystem Management Partnership (UNEP-IEMP) and the Asian Development Bank (ADB). The participants represented both policy-makers and practitioners and came from a range of government departments, regional organisations, universities/research institutes, and NGOs.

The workshop was convened by the SGA Network Secretariat, in collaboration with the UNEP Regional Office for Asia and the Pacific (UNEP ROAP), and the Viet Nam Environment Administration, Ministry of Natural Resources and Environment (VEA-MONRE). The workshop was funded by the European Commission and the Norwegian Government.

Day One of the workshop was officially opened by Dr Nguyen The Dong, Deputy Director General of the Viet Nam Environment Administration, Ministry of Natural Resources and Environment (VEA-MONRE) who welcomed workshop participants to Hanoi. There was a round of introductions from participants and facilitators, followed by an interactive self-assessment exercise to evaluate participants' personal understanding of ecosystem assessments, and their institutions/countries readiness to carry out an assessment. The aims and activities of the SGA Network, as well as an introduction to IPBES assessments, and the Ecosystem Assessment Framework were provided. Lastly, the Scoping Stage of the Ecosystem Assessment Framework was covered through presentations, exercises and discussions.

Day Two covered the Design Stage and the Implementation Stage from the Ecosystem Assessment Framework. The Design Stage explored conceptual frameworks, as well as focusing on key design considerations such as the governance structure for an assessment, developing a work plan, and funding considerations. The afternoon focused on the Implementation Stage of the Ecosystem Assessment Framework and covered data requirements, indicators, and assessing the status and trends of ecosystems and their services. Day three concluded with presentations and exercises on the use of scenarios in an ecosystem assessment.

Day Three included how to assess the different values people place on ecosystems and their services, how to evaluate policy response options, and the peer review process. The afternoon focused on the last stage of the Ecosystem Assessment Framework, the Communication and Outreach Stage. Participants designed communication strategies for target audiences and developed communication outputs to communicate key messages and findings.

Day Four covered capacity building in relation to IPBES, and the identification of capacity building needs and opportunities at the national level. Country groups (Cambodia, Thailand, and Viet Nam) re-worked the Scoping Stage of the Ecosystem Assessment Framework and begun planning the assessment process in their countries. Lastly, the self-assessment exercise was repeated, and the day concluded with workshop reflections and closing remarks.

1. Background and Rationale for Workshop

The findings of the Millennium Ecosystem Assessment (MA) confirmed the increasingly important contributions of ecosystem services to human well-being. Following the release of the MA in 2005 many sub-global assessments (SGAs) have been undertaken using the MA methodology or an alternative approach, such as The Economics of Ecosystems and Biodiversity (TEEB). Developing individual and institutional capacity is, however, essential for many countries and regions before they are able to carry out their own ecosystem assessments.

Assessments are considered important for achieving the goals of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). In a meeting jointly convened by the Governments of Brazil and Norway in 2011 it was recognised that: i) there was potential to build on work already developing in the follow-up to the MA and TEEB; ii) SGAs have the potential to deliver meaningful results at the appropriate scale to decision-makers; and iii) there is already an SGA network in place that can help support countries and improve access to existing experience and tools.

Under IPBES, capacity building has been highlighted as an important component of the first work plan that was agreed in December 2013. Deliverables 1(a) *Prioritisation of capacity needs and matching with resources*, and 1(b) *Development of capacities to participate in IPBES*, from the work plan speak particularly strongly to the objectives of this workshop. In addition, it has been recognised that the assessment process itself is just as important as the product, as it offers an opportunity to develop in-country capacity. Therefore, regional assessments have a key role to play in meeting these capacity building goals.

The Greater Mekong sub-region is a biologically, economically and sociologically diverse region. One of the main policy challenges the region faces is to raise the standard of living and increase access to resources without degrading the diverse ecosystems (which contribute to the well-being of the population, through the delivery of ecosystem services). This workshop offers an opportunity to support assessment capacity building efforts within the region, and assist in engaging with IPBES and meeting environmental goals.

1.1 Workshop Objectives and Structure

The Secretariat of the SGA Network, in collaboration with the UNEP Regional Office for Asia and the Pacific (UNEP ROAP), and the Viet Nam Environment Administration, Ministry of Natural Resources and Environment (VEA-MONRE), brought together assessment practitioners from the Greater Mekong sub-region.

The objectives of the four-day workshop were to:

1. Generate understanding of the basic concepts of an ecosystem assessment and to illustrate both the value and rationale for undertaking one;
2. Gain new ideas and inspiration about how a national ecosystem assessment can be used to instigate policy and behavioural change;
3. Provide information on how national ecosystem assessments can contribute to assessments under IPBES;
4. Introduce a variety of tools and data for ecosystem assessments; and
5. Contribute to a preliminary capacity needs assessment that could feed into a proposal for supporting countries to undertake ecosystem assessments as part of efforts to mainstream biodiversity and ecosystem services into their development strategies.

This workshop was generously funded by the European Commission and the Norwegian Government.

The workshop brought together a total of twenty-eight participants from three countries in the Greater Mekong sub-region: Cambodia, Thailand, and Viet Nam, as well as representatives from sub-regional organisations, including the United Nations Environment Programme – International Ecosystem Management Partnership (UNEP-IEMP) and the Asian Development Bank (ADB). The participants represented both policy-makers and practitioners and came from a range of government departments, regional organisations, universities/research institutes, and NGOs.

The workshop was run as a series of interactive sessions based upon a set of fictional countries. SGAN workbooks and exercises were used to work thorough steps in the ecosystem assessment process and apply guidance from the draft IPBES guide for assessments on how to undertake a national ecosystem assessment that would be consistent with an IPBES assessment. Time for feedback and exchange of experiences was allocated at the end of each session in the form of plenary discussions or group-to-group report back (market place style).

The agenda for each day focused on the following:

- **Day One:** Opening and scene setting sessions, participants' self-assessment and expectations from the workshop, introductions to the SGA Network and IPBES assessments, introduction to the Ecosystem Assessment Framework, and the Scoping Stage of the Framework
- **Day Two:** Design and Implementation Stages of the Ecosystem Assessment Framework
- **Day Three:** Implementation Stages of the Ecosystem Assessment Framework, including policy support tools, and the Communication and Outreach Stage
- **Day Four:** Planning for countries' assessment processes, capacity building needs and workshop reflections

Day 1

2. Opening Session

2.1 *Opening address, welcome and introductions*

Dr Nguyen The Dong, Deputy Director General of the Viet Nam Environment Administration, Ministry of Natural Resources and Environment (VEA-MONRE), welcomed the participants from the Greater Mekong Sub-region to Hanoi.

Dr Nguyen The Dong delivers the opening address.

Opening remarks were given by Mrs Mai Huynh Thi, Deputy Director, Biodiversity Conservation Agency (BCA-VEA-MONRE), and Dr Claire Brown from the SGA Network Secretariat. Claire then provided an overview of the workshop's objectives, highlighting that the various stages of the ecosystem assessment process in the context of IPBES assessments would be discussed.

The opening address was followed by a round of introductions from both participants and facilitators, during which participants were asked to name which ecosystem service they would like to be and the reasons why. The group of participants represented different government departments, regional organisations, universities/research institutes, and NGOs (see Annex 1 for the Participants List).

2.2 *Exercise: Self-assessment*

The workshop participants undertook an interactive self-assessment exercise, which aimed to evaluate how they rated their personal understanding of ecosystem assessments, as well as how prepared their individual institutions and countries were to carry out an ecosystem assessment. The participants were asked to form a 'human histogram' by positioning themselves along an imagined axis, scaled from high to low, to depict their answers. The four questions asked and a summary of their responses can be found in **Table 1**. The self-assessment exercise was repeated at the end of the workshop, and a comparison of the responses can be found in section 12.2 of this report.

Table 1. Summary of self-assessment results.

Question	Responses
Q1: Do I understand what an ecosystem assessment is?	• Participants placed themselves along the imagined axis, with the majority grouped between the middle and the low end of the axis.
Q2: How much information is available in my country to underpin an ecosystem assessment?	• Only three participants placed themselves at the high end of the imagined axis as they considered there to be a lot of information in their respective institution/country. • Most participants placed themselves between the middle and the low end of the axis.
Q3: (If I had sufficient capacity) how confident would I feel in taking an ecosystem assessment forward in my country?	• Seven participants indicated they felt confident to undertake an assessment in their respective countries • Most participants placed themselves between the middle and the low end of the scale.

2.3 *Exercise: Expectations of participants*

Following an overview of the workshop's agenda and aims, participants were asked to express their expectations of the workshop and what they hoped to achieve by attending. Key themes are summarised in **Table 2**.

Table 2. Overview of what participants expected or wanted to achieve by attending the workshop.

Theme	Expectations
IPBES	To understand: • how to conduct an IPBES assessment
Ecosystem assessments (EA)	To learn about: • the purpose and benefits of conducting an EA • how to conduct an EA • tools and methodologies to carry out an EA • how to move from the scoping stage to the design stage • scenarios • values • mainstreaming • communicating results to influence policy development and decision-making • how to share the knowledge gained • how to apply the knowledge gained • how to build capacity in their countries
Share experiences	• exchange experiences • develop future collaborations

3. Setting the Scene in the Region

3.1 *Introduction to the SGA Network*

To set the scene, Katherine Despot Belmonte from the SGA Network Secretariat provided an introduction to the SGA Network (www.ecosystemassessments.net). The presentation included the network's history, objectives, activities, and how it aims to promote and facilitate improved capacity for undertaking and using assessments. The participants were also invited to join the SGA Network.

3.2 *Mainstreaming Ecosystem-based Adaptation in Viet Nam*

Dr Christine Schäfer, GIZ-Vietnam, gave a presentation on GIZ's project 'Strategic mainstreaming of ecosystem-based adaptation in Viet Nam'. The presentation covered the impacts of climate change and threats to ecosystem service provision, economic development and food security in Viet Nam. Then, a comparison between high-cost, large-scale infrastructure projects versus Ecosystem-based adaptation (EbA) approaches was provided. This was followed by an overview of the advantages of EbA approaches. EbA best practices in Viet Nam, challenges of up-scaling EbA measures, as well as recommendations to move EbA approaches forward were also provided.

3.3 *Biodiversity Landscapes & Livelihoods*

Mr Teo Dang Do, Greater Mekong Sub-region Environment Operations Center, Asian Development Bank (GMS-EOC-ADB), provided an introduction to the Greater Mekong Sub-region Core Environment Program (CEP), which is a regional platform for multi-country and multi-sector engagement on key environmental issues. This was followed by an outline of: the different landscapes, countries involved in CEP, current work undertaken in regards to ecosystem valuation in the region, and key lessons learnt.

3.4 *The ASEAN Working Group on Coastal and Marine Environment*

Ms Lea Avilla, Department of Environment and Natural Resources-Biodiversity Management Bureau (DENR-BMB), gave an introduction to the ASEAN Working Group on Coastal and Marine Environment (AWGCME), which aims to promote the sustainable use of coastal and marine resources in Southeast Asia. An overview of the coastal and marine ecosystem services in the region, and AWGCME's current initiatives and activities was provided.

4. IPBES Assessments

4.1 *Introduction to IPBES*

Dr Claire Brown provided an overview of IPBES. This presentation covered the Platform's organisation, functions, its 2014-2018 work programme, and IPBES regional assessments. IPBES objectives and deliverables were also outlined.

4.2 *IPBES Guide to Assessments and IPBES Catalogue of Assessments*

Next, Claire introduced the IPBES Guide to Assessments (deliverable 2(a)). The aims of the guide are to: 1) create a 'roadmap' focusing on key elements for an IPBES assessment; 2) ensure consistency across IPBES assessments; 3) address practical, procedural, conceptual and thematic aspects of assessments; and 4) take into account different visions, approaches and knowledge systems in ecosystem assessments. The guide was developed for assessment practitioners that may undertake IPBES assessments, or IPBES inspired assessments at smaller scales. It was emphasised that the guide is not prescriptive and that assessment practitioners should use this guide as a 'roadmap' when undertaking an assessment within the context of IPBES.

Then, an overview of key IPBES resources, such as guidelines, strategies, approaches, and tools that could be useful for assessment practitioners was provided. Lastly, information on the IPBES Catalogue of Assessments (http://catalog.ipbes.net/) was presented. The Catalogue is a repository of assessments of ecosystem services and biodiversity from global to sub-national scales.

4.3 *What is an IPBES assessment?*

Mrs Nadine Bowles-Newark from the SGA Network Secretariat, provided an introduction to ecosystem assessments, their link to human well-being (HWB), and the role they play in supporting decision-making. Then, an overview of assessments in the context of IPBES was provided. IPBES assessments share three basic features: credibility, legitimacy, and relevance; and are typically characterised by:

- The involvement of governments and other stakeholders
- Being conducted by a disciplinary/geographic/gender balanced group of eminent experts
- Presenting findings and knowledge gaps that are policy relevant but not policy prescriptive.

Relevant information on IPBES assessment processes, the IPBES assessment framework, as well as the range of scales in which IPBES assessments may be conducted (i.e. global, regional, thematic and methodological), was also provided.

5. Ecosystem Assessment Framework: The Scoping Stage

Then, Nadine provided an introduction to the Ecosystem Assessment Framework (**Figure 1**), and outlined the key stages of the Framework: the Scoping, Design, Implementation, and Communication and Outreach stages, all of which are underpinned by active stakeholder engagement.

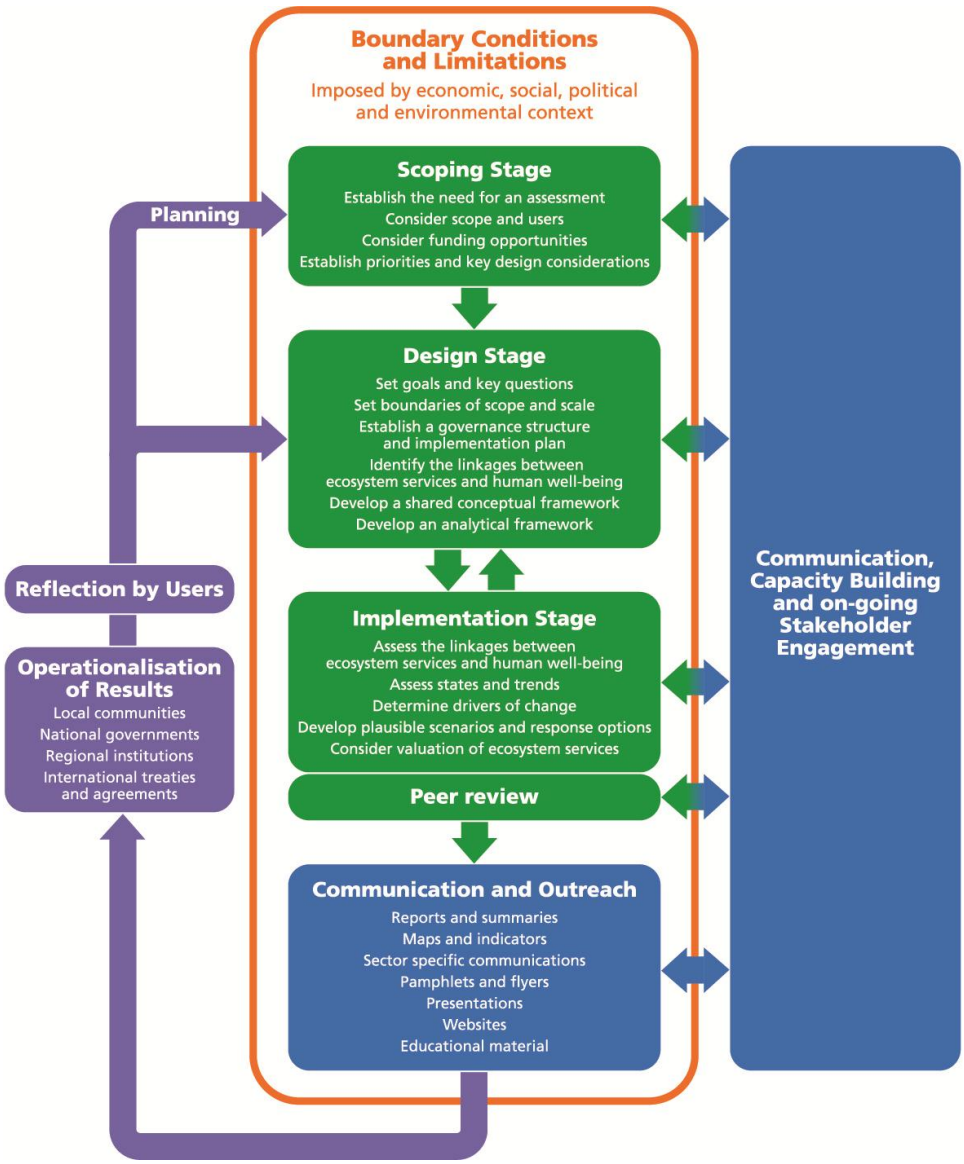


Figure 1. The Ecosystem Assessment Framework.

5.1 Defining the scope and context of an assessment

Next, Nadine introduced the Scoping Stage which explores how and why an ecosystem assessment might be undertaken. The three main components of this stage were outlined:

1. Determining the need for an assessment;
2. Defining the key questions the assessment will be designed to answer; and
3. An initial examination of potential design constraints.

The importance of understanding the environmental, social and economic problems of an area to be assessed, and their implications for the well-being of people living in this area were emphasised. The scoping stage is the starting point to determine user needs, evaluate stakeholders' priorities, and secure buy-in from stakeholders. It was also stressed that ecosystem assessments should be demand driven as this ensures their relevance to end-users.

The workshop participants were then introduced to their respective fictional countries: Bromova, Panlusia, Samlo and Tandino. These countries served as the breakout groups throughout the workshop. Participants were asked to put themselves in the shoes of Linh Pham, a fictitious scientific advisor from the Ministry of Environment (MoE) of their fictional country. To set the scene, the

participants were presented with the following scenario: Linh, having recently attended an SGA Network capacity building workshop on *undertaking ecosystem assessments*, is seeking to undertake an ecosystem assessment to address many of the environmental, social, political and economic problems facing her country.

5.2 *Exercise 1.1: Determining the need for an assessment*

Participants were asked to read their Country Fact File documents, and to discuss the most important circumstances and issues (economic, political, social, and environmental) in their fictional country, and to identify the different groups of people who may be affected. Participants were also asked to consider which stakeholders/users should engage in a planning meeting for a potential ecosystem assessment, and to discuss how an ecosystem assessment could meet the needs of different stakeholders. An overview of the answers provided can be seen in **Table 3**.

Table 3. Overview of answers provided for Exercise 1.1.

Circumstances & issues	People affected	Stakeholders to include	How an ecosystem assessment could help them
Economic • Emerging economy • Fluctuation of commodity prices • High dependence on agricultural and fishing sectors Political • Stable government • Problems with land tenure and property rights • Village administration with high levels of influence • CBD, UNFCCC, and IPBES Member State Social • Overpopulation • Marginalisation of indigenous peoples and traditional land holders • High education level • Urbanisation • Multi-ethnicity • Unemployment rate increasing Environmental • Biodiversity richness Natural habitat loss • Biodiversity loss • Endemic species decline • Pollution	• Indigenous communities • Local communities • Farmers • Fishermen	• Central Government • Local Government • Policy-makers • Agriculture sector • Fishing sector • NGOs/ Conservation organisations • Private Sector (Timber companies, Developers, Mining companies) • Indigenous groups • Traditional landholders • Local communities	• Ecosystem services valuation (monetary and non-monetary) • Zoning / land use classification • Identify trade-offs between development and conservation • Evaluate the impact of biodiversity loss on people's livelihoods • Inform land-use planning • Raise awareness

• Unsustainable fishing • Degradation of ecosystem services • Flooding			

5.3 *Stakeholder engagement*

Katherine gave a presentation on stakeholder participation. The importance of understanding the needs and priorities of the assessment end-users or stakeholders was emphasised. Stakeholder participation is required throughout the ecosystem assessment process, and key stakeholders should be part of the governance structure. Communication channels between stakeholders and technical experts should be established in order to clarify uncertainties and verify assumptions. Furthermore, stakeholder input should be recorded and acknowledged in the relevant outputs to ensure transparency. An overview of stakeholder consultation methods was also provided.

5.4 *Exercise 1.2: Consulting with stakeholders*

Participants were reminded that the core values of relevance, credibility and legitimacy are best achieved through strategic and effective participation. Participants were then asked to individually consider what methods could be best used to consult with different stakeholders, and which methods might be more effective with which stakeholders and why. Participants reported back in plenary. Examples suggested by participants included: face-to-face interviews with indigenous and local communities; workshops with agricultural and fishing sectors; interviews or surveys with government officials, policy-makers and private companies.

5.5 *Defining key questions for the assessment to address*

Next, Nadine introduced the need to identify clear, policy-relevant questions that the assessment expects to address in order to guide the assessment process. It was emphasised that policy questions or 'key questions' should describe what the user or audience of the assessment wants to know, and these should be agreed upon in close consultation with stakeholders. The answers to key questions can be used to justify or support a decision or action that directly or indirectly affects allocation of public or private resources. Examples of policy-relevant questions from the UK National Ecosystem Assessment (UK NEA) were provided.

5.6 *Exercise 1.3: Developing policy-relevant questions*

Then, participants were tasked with drafting two policy-relevant questions for an ecosystem assessment in their fictional country. Participants had to consider the stakeholders' concerns, user needs and national priorities from the previous exercises. An example answer is given in **Table 4** below.

Table 4. Panlusia's key questions for Exercise 1.3.

Key question	Reason/justification	Key users concerned
What are the drivers leading to the changes in our tropical forests?	To identify the key factors causing ecosystem services decline	• Policy-makers • Local communities
What measures need to be taken to reduce or minimise negative impacts on our forest ecosystem?	To provide scientific measures to minimise the impact of human activities	

Panlusia drafts key questions for Exercise 1.3.

5.7 *Key design considerations*

Nadine highlighted that ecosystem assessments are complex processes and provided five key considerations that can help to guide an ecosystem assessment process:

1. Important ecosystems and services: focus on the priority services to be assessed and bundles of ecosystem services
2. Data requirements and possible sources: identify available data and how to access it
3. Key capacities and resources required: evaluate the skills sets that will be required (technical and non-technical skills)
4. Temporal scales: consider changes over time, from the relevant past to the predictable future
5. Spatial scales of interest and boundaries: depend on the key questions and funding available

5.8 *Exercise 1.4: Key design considerations*

Lastly, to conclude the Scoping Stage, participants were asked to start thinking about the key considerations for their fictional ecosystem assessment. Participants were specifically asked to:

- Choose a key question from Exercise 1.3 to focus on for the rest of the workshop;
- Identify the most important ecosystems and services that would need to be assessed to address their key question; and
- Discuss what kind of data requirements might be needed to assess these ecosystems and services.

In plenary, participants also identified the key capacities/skills and resources that would be required to carry out the assessment. Facilitators provided further examples based on the UK NEA process. **Table 5** below shows an example response from one of the fictional countries.

Table 5. Key design considerations identified by participants from Tandino for Exercise 1.4.

Key question: What are the benefits of conserving mangroves?	
Design considerations	**Key things to include**

Important ecosystems & services	• Mangrove ecosystem services
	  ○ Provisioning services (food, fibre, timber/firewood, medicine)
	  ○ Regulating services (carbon sequestration, flood and typhoon protection, erosion prevention)
	  ○ Cultural services (ecotourism, education)

Data requirements	• Data on mangrove forest cover over time • Population and distribution of fish and shrimp • Satellite image /GIS data • Data on local household income • Data on gender and social inclusion
Key capacities required	• GIS specialist • Planners • Researchers • Multidisciplinary technical team

Day 2

6. The Design Stage

Following a recap of Day 1 by Claire, Katherine gave an introduction to the Design Stage of the Ecosystem Assessment Framework, and highlighted that a thorough design phase is fundamental for the eventual success of an assessment. The key elements to consider within this stage include:

- The governance structure;
- The process for implementing the assessment;
- The conceptual framework and assessment aims; and
- Funding and on-going engagement of users

6.1 Key considerations: governance structure, work plan, funding

Then, Katherine provided further detail on establishing a governance structure, preparing work plans, and funding considerations.

Establishing a governance structure is critical for ensuring user engagement, raising funds, and overseeing progress. Effective governance provides leadership, relevance, legitimacy, and credibility of the assessment process, and its findings. The governance structure is dependent upon size and scope of the assessment, and may include community leaders, scientists, scientific institutions, technical experts, and political leaders/representatives. The different governance structure groups in an ecosystem assessment, roles, responsibilities and desirable skills were outlined; as well as the governance structure of an IPBES assessment.

Work plans, accompanied by detailed supporting documents and terms of reference for the different governance groups, are important for effective management and communication. Work plans should outline milestones, deadlines and deliverables to ensure objectives are met on time and within budget.

Funding considerations depend on a number of elements, for example the spatial scale, size and nature of the technical effort; the size and nature of the participatory communication and outreach process; the availability of information; and local capacity.

6.2 Discussion: Budgeting for an assessment

Participants were asked to write down two key potential costs to budget for when undertaking an ecosystem assessment. Participants then shared their answers in a plenary discussion. Responses included salaries (technical team, secretariat); stakeholder participation costs (transport, daily subsistence, meeting venue); data and data analysis costs; and communication costs.

6.3 Exercise 2.4: Selling the assessment concept

Participants were reminded that designing assessments which are policy-relevant can help to secure core funding. They were also encouraged to consider approaching local donors for extra funding as this can generate interest and buy-in from relevant stakeholders. In this exercise, participants had to use their key questions to identify a private company (e.g. forestry, fisheries, tourism, mining), and to prepare a 90-second pitch that would take place in an elevator to persuade the CEO of their chosen private company to co-fund their ecosystem assessment. Representatives from each group delivered their pitches and some of their arguments emphasised the importance of valuing ecosystem services, corporate social responsibility, certification schemes, and sustainable supply chains.

This exercise served to illustrate the need to target communication messages to relevant stakeholders, in this case private companies that benefit from ecosystem services.

Participants deliver their pitches in Exercise 2.3.

6.4 Introduction to the IPBES conceptual framework

Then, Nadine gave an introduction to conceptual frameworks and indicated their usefulness for framing an ecosystem assessment. Conceptual frameworks provide a logical structure for evaluating a system, and addressing essential components of the system (e.g. ecosystems, human well-being, ecosystem services), the relationships among those components, and how they may be changing. Conceptual frameworks need to be developed through engagement with a diverse group of users and experts to ensure that the framework is accepted, 'owned' and used. Conceptual frameworks are adapted to the needs of a specific assessment, and draw on a variety of knowledge (e.g. scientific, traditional, and political). Examples of different conceptual frameworks from previous assessments such as the MA and the UK NEA were provided.

Then, the presentation focused on the IPBES conceptual framework (**Figure 2**). The framework is the conceptual, and methodological scaffolding for all activities and products of IPBES. It guides all IPBES assessments in their scoping, analytical and synthesis work, and policy options. The IPBES conceptual framework is a simplified model that reflects the complex interactions between the natural world and human societies. It places the main focus on human actions (governance, institutions, and decisions), and embraces different knowledge systems (western science, indigenous and local knowledge). Detailed information about the different elements of the conceptual framework (i.e. nature; nature's benefits to people; anthropogenic assets, indirect drivers, direct drivers, and good quality of life) was provided. More information about the IPBES conceptual framework can be found in IPBES/2/17.

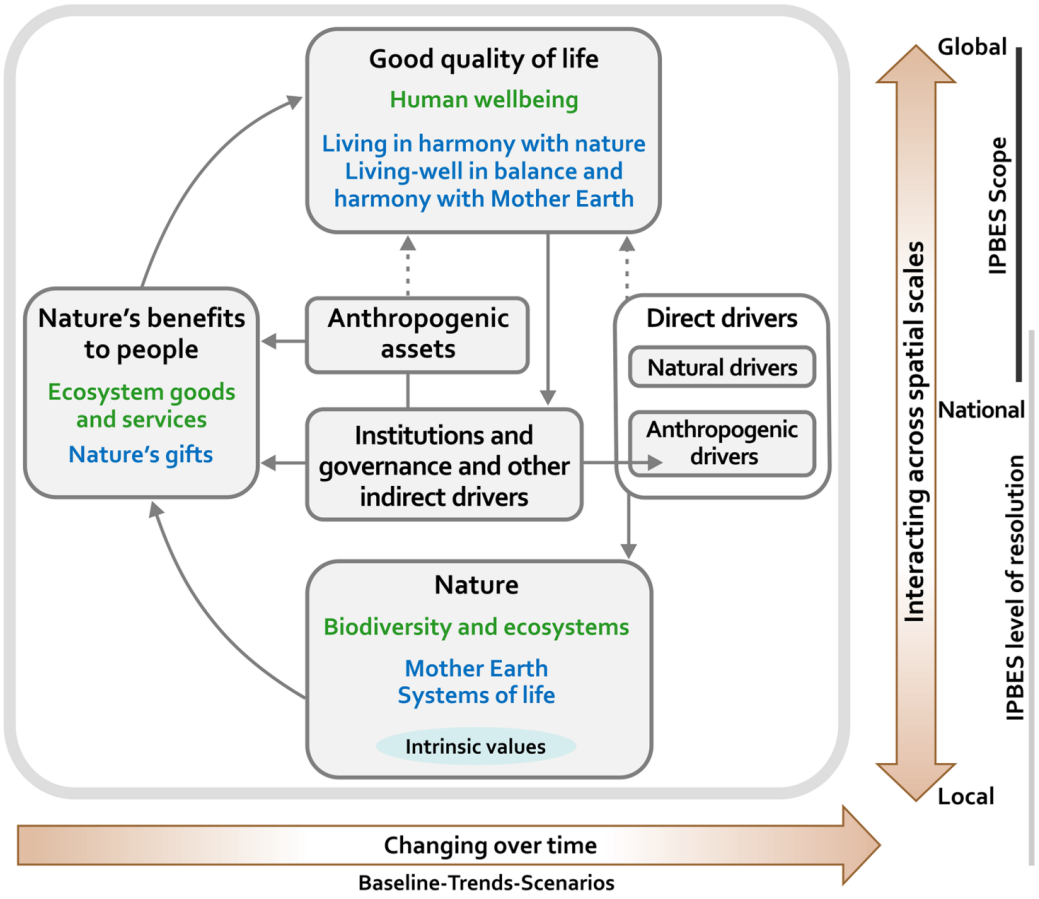


Figure 2. The IPBES Conceptual Framework (IPBES/2/17).

6.5 *Exercise: Elements of the IPBES conceptual framework*

To set the scene, participants were asked to imagine a coastal ecosystem and how the people that live there depend on this ecosystem. Then, groups were given a blank version of the IPBES conceptual framework and six pieces of paper containing one or more words. Groups had to match the words to the correct element of the IPBES conceptual framework. All groups reported back in plenary. The answer for this exercise is shown in **Figure 3** below.

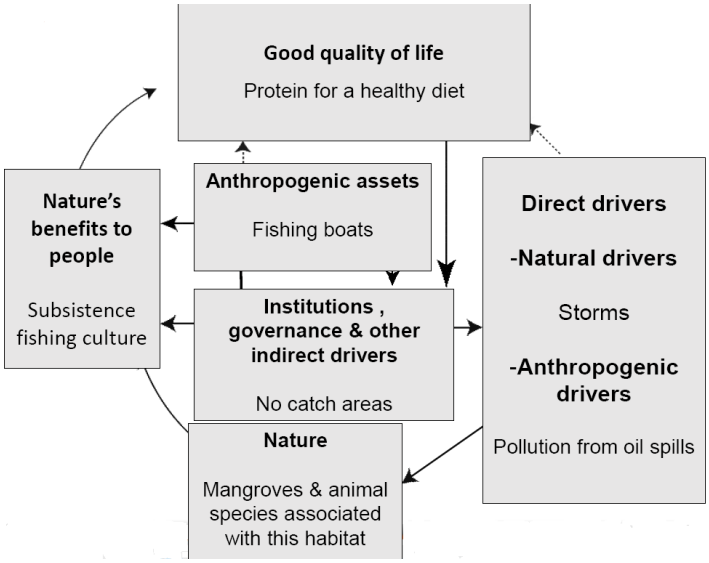


Figure 3. The IPBES Conceptual Framework applied to a coastal ecosystem.

6.6 *Using the IPBES conceptual framework & scale considerations*

Claire provided an overview of the application of the IPBES conceptual framework to a national assessment. It was emphasised that the IPBES conceptual framework should be used by an assessment team as a conceptual scaffolding and adapted to the relevant national context. The broadest set of values of nature and its benefits to people need to be considered, including both instrumental values as well as relational values. Then, the different disciplines, knowledge sources and relevant stakeholders identified. The spatial and temporal scales of the country assessment need to be determined, and indirect drivers (e.g. institutions, consumption patterns, economic policies) considered in detail. Lastly, options for policy and practice, as well as state, trend and scenarios for the future should also be identified.

Then, further information on IPBES assessments across scales was outlined. The example of the Southern African Sub Global Assessment (SAfMA), which was conducted at three spatial scales, was outlined. This example illustrated that conducting assessments at different spatial scales offers the opportunity to investigate processes at the scales at which they take place; it enables links between scales to be identified; and it ensures that the perspectives of stakeholders at different scales are reflected. IPBES acknowledges the importance of scale in assessments and helps to catalyse support for sub-regional and national assessments. To conclude, a four-step roadmap for IPBES assessments across scales was provided.

6.7 *Exercise 2.3: Applying the IPBES conceptual framework to a national assessment*

Participants were tasked with applying the IPBES conceptual framework to their fictional countries' assessment. They were asked to use their key question and stakeholder priorities identified in the Scoping Stage, and populate the key components of the IPBES conceptual framework. They were also encouraged to think about the scale of the assessment. Their conceptual frameworks were then shared with other groups through a market place report back. An example conceptual framework from Panlusia is shown in **Figure 4**.

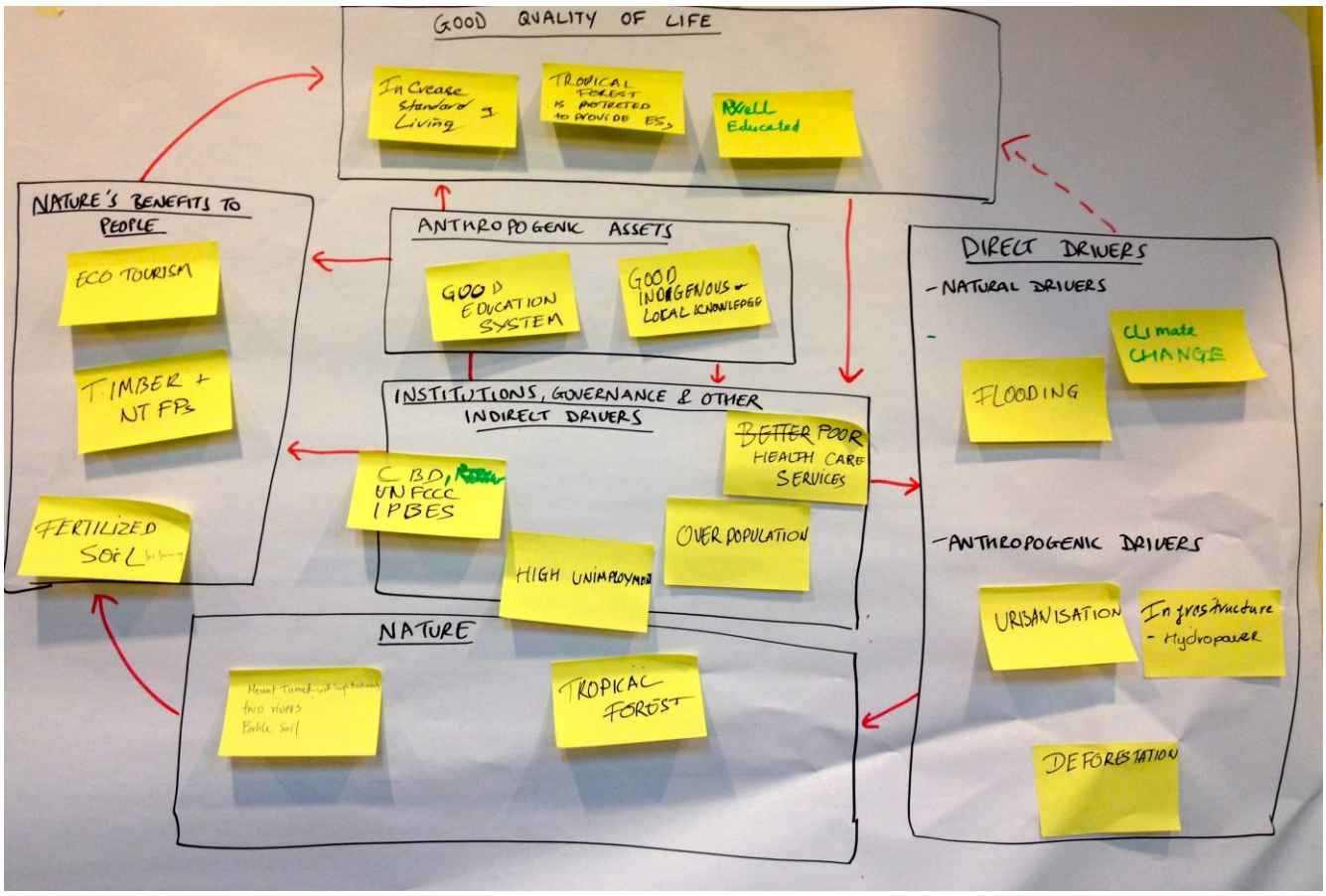


Figure 4. Panlusia's application of the IPBES Conceptual Framework.

7. The Implementation Stage

Nadine introduced the Implementation Stage, which is the technical (doing) stage of the assessment. Some of the elements undertaken at this stage include:

- Assessing status and trends of priority ecosystems and services, and the associated drivers of change
- Scenarios – development of descriptive storylines to illustrate the consequences of different plausible kinds of change in drivers, ecosystems, ecosystem services and human well-being
- Valuation of ecosystem services – present and future; monetary and non-monetary
- Analysing response options – examining past and current actions that have been taken to enhance the contribution of ecosystem services to human well-being
- Peer review – an essential part of the implementation stage to ensure validation of findings and to provide credibility

7.1 Assessing status and trends of ecosystems and their services

Then, Nadine provided an overview of the first element of the Implementation Stage. The presentation included definitions of key terms associated with this element, the role of indicators, an outline of status and trend of ecosystems and their services, and a number of examples. The importance of identifying gaps and uncertainties during an assessment to inform future research agendas was also highlighted.

Indicators are values or signs reflecting in a clear way the status, cause or outcome of an object or process. Indicators are used to track performance, monitor the consequences of alternative policies, and for scientific exploration. Participants were pointed towards two relevant publications for further guidance: *Guidance on National Biodiversity Indicator Development and Use* (BIP, 2010), and

Measuring Ecosystem Services: Guidance on Developing Ecosystem Service Indicators (UNEP-WCMC & CSIR, 2014).

The status and trends analysis component of an ecosystem assessment focuses on different elements of the conceptual framework (i.e. priority ecosystem services, associated drivers of change, and the impacts on human well-being). Some key questions that status and trends analysis looks to answer are the following:

- What is/are the current condition and historical trends of ecosystems and their services?
- What have been the consequences of changes in ecosystems for human well-being (or good quality of life)?

7.2 *Exercise 3.1: Identifying data and ecosystem service indicators*

Participants were then asked to use the priority ecosystem services and drivers of change identified in their conceptual frameworks (Exercise 2.3) to identify:

- How drivers of change affect the priority ecosystem services (ESS)
- What data are needed to understand the status and trends
- Examples of ESS indicators that could be used to assess components of Nature or Nature's benefits to people as described in the IPBES conceptual framework

An example of the answers given can be seen in **Table 6** below.

Table 6. The priority ecosystem service, drivers of change, data required and potential indicators to assess *Nature* or *Nature's benefits to people* identified by Samlo in Exercise 3.1.

Key question: what is the role of pollinators in food security in Samlo?		
Priority ecosystem service	Pollination	
Drivers of change	Drivers of change: • Land-use change, • Habitat change	How the drivers of change affect pollination: • Reduces the number of pollinators (loss of pollinating species) • Reduces food production
Data	Data required: • Species types & population • Species density • Maps (GIS) • Area/habitat type • Biophysical status	Data Sources: • National Statistics Office • Ministry of Agriculture • Cooperatives • Academic institutions • FAO • UNEP
Indicators	• Crops/fruits produced • Income generated from agricultural products • Input/use of pesticides • Number of pollinators • Extent of habitat of pollinators (ha)	

Samlo reports back on Exercise 3.1.

7.3 Scenarios and their role in the ecosystem assessment process

Claire introduced another element of the Implementation Stage to participants – the use of scenarios and models to develop an understanding of plausible changes in primary drivers; and the potential consequences for ecosystems, their services and human well-being. Forward-looking assessments need to explore the prospects of future developments, and scenario exercises provide a structured approach to addressing related uncertainties. The different types and various uses of scenarios were also outlined.

7.4 Exercise 3.2: Identifying the role of scenarios

Then, participants were asked to consider how scenarios could fit into their fictional national assessments. Groups had to write down three possible questions that their stakeholders may have about the future that scenario analyses could answer. Groups also had to consider relevant direct drivers and indirect drivers of change related to their questions; and consider potential impacts/uncertainties under three headings: desire, fear and fate. **Table 7** below provides an example answer from one of the groups.

Table 7. Panlusia's answer on the role that scenarios could play in an ecosystem assessment

Key question: If the forest continues to be degraded, what could be the impact on local livelihood?	
Relevant direct drivers of change	• Deforestation • Urbanisation
Relevant indirect drivers of change	• Population growth • Increasing demand for forest resources
Possibilities	**Desire**: stop deforestation **Fear**: poor law enforcement **Fate**: loss of forest ecosystem services

7.5 Using scenarios in the assessment process

Claire provided further definitions about scenarios and their use. It was emphasised that scenarios are not predictions, they are stories about the future, told as a set of "plausible alternative futures" about what might happen under particular assumptions. Thus, scenarios are useful support tools for decision-making as they can assist decision-makers to identify the policies most likely to achieve their goals. Storylines from different scenarios used by the UK NEA were provided.

7.6 Exercise 3.3: Using scenarios

Then, each fictional country was assigned one of three scenarios: *Rapid Economic Development*, *Environmentally Aware* and *Business as Usual*. Participants were asked to outline their storylines in relation to their assigned scenario, and to describe (with words or a picture) how the provision of the key ecosystem services previously identified might change over the next 50 years under their given scenario; and consequently what the impact on human well-being might be. An example of Tandino's *Rapid Economic Development* scenario is provided in **Figure 5** below.

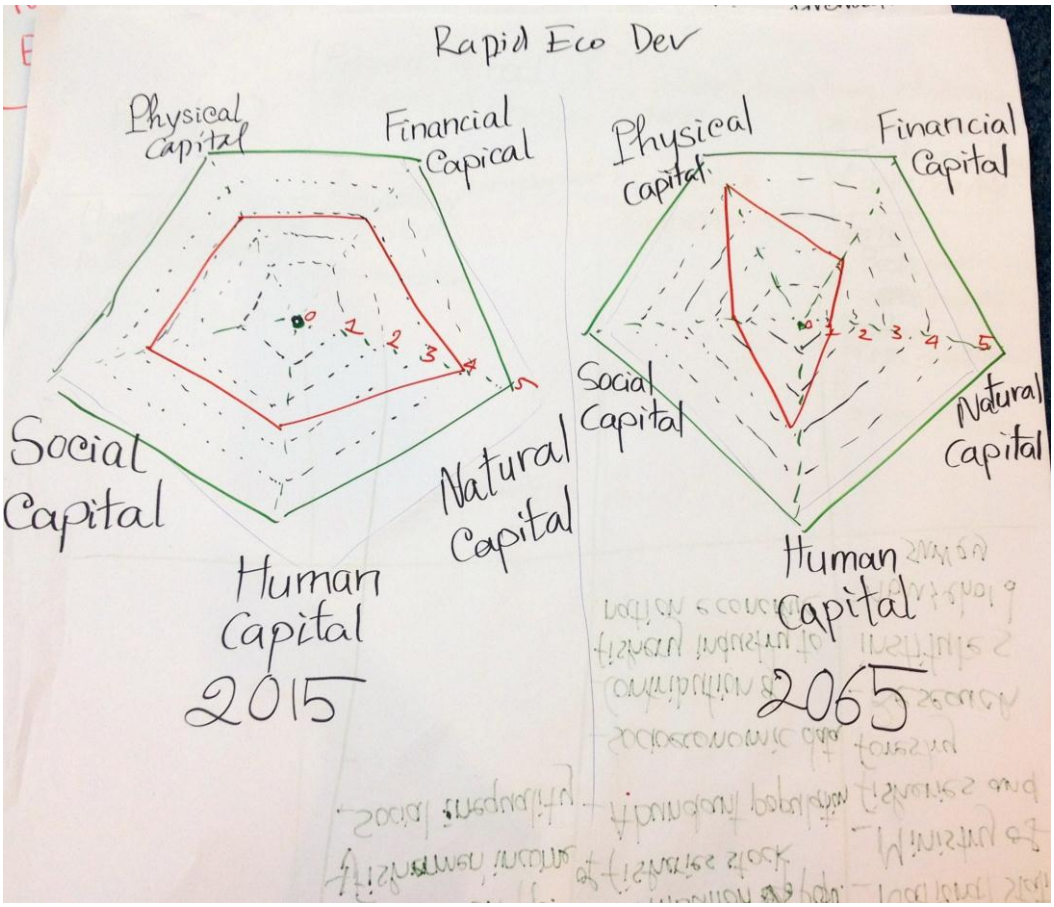


Figure 5. Tandino's visualisation for the *Rapid Economic Development* scenario.

Tandino reports back on Exercise 3.3

Day 3

7.7 Conceptualising multiple values

After a recap of Day 2, Claire provided an introduction to conceptualising multiple values. Ecosystem services have value for humans through the different benefits they provide for human well-being (i.e. economic benefits, health benefits, social benefits). The term 'value' is used to establish human preferences and judgement for ecosystem functions/services. How values are articulated has a bearing on how decisions are made with respect to managing biodiversity and ecosystem services. Understanding values can inform decision-making by:

- Identifying trade-offs in different values within/among stakeholders;
- Identifying policies and management strategies that respect local values, improve equality in access to and control over resources;
- Avoiding strategies that exacerbate conflicts, inequalities and distrust; and
- Improving buy-in to policies and improving democratic processes.

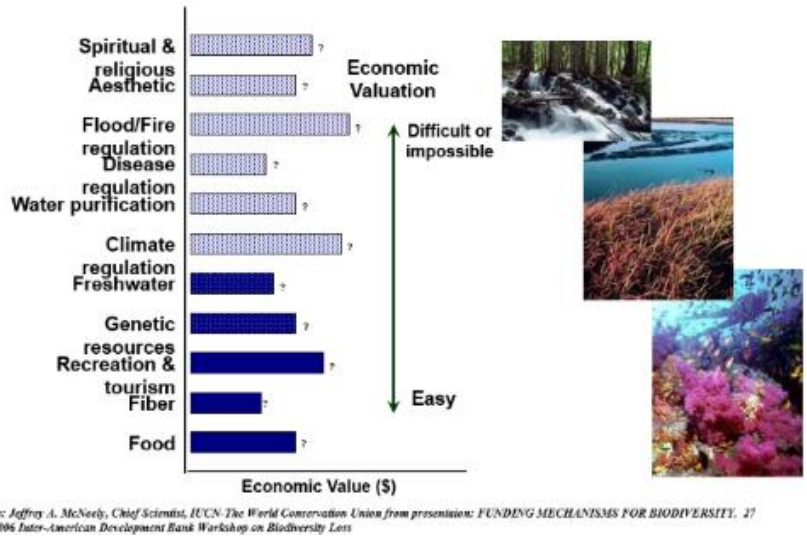
There is a need to use a range of methodological approaches to valuation (quantitative and qualitative) to fully describe ecosystem service values. The method chosen will depend on the type of ecosystem service to be valued, as well as the quantity and quality of data available. Thus, an IPBES Expert Group has been tasked with developing a valuation protocol to guide valuation in IPBES assessments (linked to deliverable 3d).

7.8 Introducing valuation approaches

Dr Adis Israngkura from the National Institute of Development Administration (NIDA) gave an introduction to valuation approaches, and the Total Economic Value (TEV) framework. It was highlighted that the TEV framework is based on the presumption that individuals can hold multiple values for ecosystems. The benefits derived from ecosystems represent different value types for humans (i.e. direct use values, indirect use values, non-use values, option values).

Use values refer to the values of ecosystem services used by humans for consumption or production purposes and included tangible and intangible services used directly (e.g. food) or indirectly (e.g. pollination). Non-use values result from the satisfaction from the mere existence of ecosystem services and from knowing that other people or future generations benefit from ecosystem services (e.g. unique landscapes). Option values are linked to future use or non-use values (e.g. genetic resources).

Economic benefits valued in monetary terms can be useful for raising the attention of policy-makers. However, some ecosystem services are harder to economically value than others as illustrated in **Figure 6** below.



Source: Jeffrey A. McNeely, Chief Scientist, IUCN-The World Conservation Union from presentation: FUNDING MECHANISMS FOR BIODIVERSITY, 27 July 2006 Inter-American Development Bank Workshop on Biodiversity Loss

Figure 6. Ecosystem services and economic valuation.

There are different monetary valuation methods that could be used to value ecosystem services, the following are some examples:

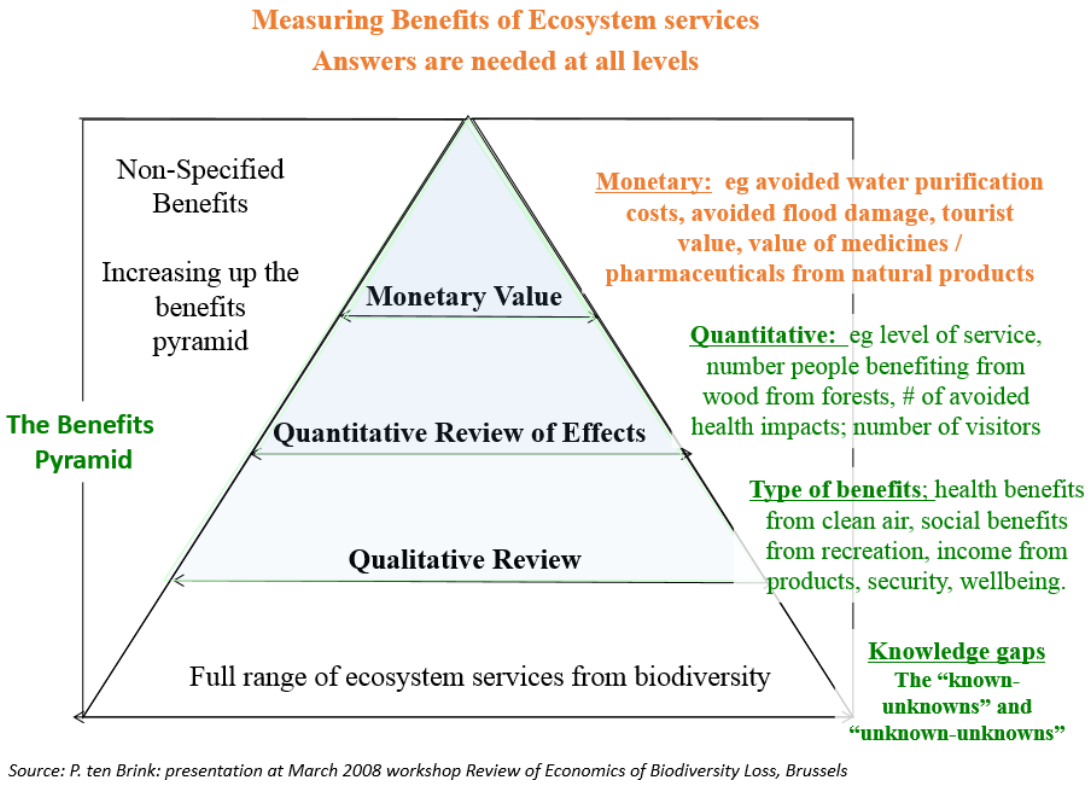
- **Direct market values**
    - Cost-based methods (estimate direct and indirect use values)
    - Production-based methods (estimate the value of ecosystem services that serve as an input in the production of a marketed good)
- **Revealed preference methods** (methods that seek to reveal a person's willingness to pay for ecosystem services)
    - Travel costs method (estimates a value based on the time and travel costs people incur to visit an area that provides unique ecosystem services)
    - Hedonic pricing method (estimates a value for ecosystem services based on the observed prices in a market)
- **Stated preference methods** (value derived from people preferences in hypothetical market contexts)
    - Contingent valuation (based on surveys asking individuals if they are willing to pay a certain hypothetical price for a change in an ecosystem)
    - Choice experiments (modelling preferences of individuals ranking or choosing from a limited number of hypothetical options)
    - Group valuation (a deliberative and participatory method whereby a wider group of people discusses how their well-being would be affected by a change in an ecosystem)
- **Benefit-transfer methods** (transferring values from existing studies from similar contexts)
    - Unit benefit transfer (average value from another site and adapted to the study site)
    - Adjusted unit transfer (makes adjustments for differences in the study site population)
    - Value/demand function transfer methods (application of the value function estimated in an existing study at another site)
    - Meta-analytic function transfer methods (use information from a number of valuation studies from other sites)

Then, Claire introduced the non-monetary valuation methods as in some contexts non-monetary valuation may be a more practical alternative to inform policy-making, especially when the economic importance of ecosystem services is recognised. The non-monetary valuation methods include the following:

- **Qualitative assessment** (in-depth interviews or focus group discussions with key experts or key stakeholders to qualitatively value ecosystem services)
- **Quantitative assessment** (value ecosystem changes in terms of bio-physical units and do not attempt to explicitly value their importance for people)

Qualitative methods can be particularly important to demonstrate values of social benefits from ecosystem services. Whereas, quantitative assessments can be useful if ecosystem services are to be safeguarded without considering trade-offs with other human needs.

The importance of using multiple valuation methods to measure the benefits of ecosystem services was emphasised (**Figure 7**). Then, the aims and the work undertaken by The Economics of Ecosystems & Biodiversity (TEEB) initiative was outlined and a case study provided.



Source: P. ten Brink: presentation at March 2008 workshop Review of Economics of Biodiversity Loss, Brussels

Figure 7. Using multiple valuation methods to measure the benefits from ecosystem services.

7.9 Exercise 3.4: Using valuation to answer policy-relevant questions

Following the presentation, participants were asked to discuss: 1) how valuation could answer their key questions, 2) how valuation could help make better decisions in relation to their key questions, and 3) what valuation techniques could be used to answer their key questions. An example response is given in **Table 8** below.

Table 8. An overview of Bromova's discussion on using ecosystem service valuation in their assessment for Exercise 3.4.

Key question: What are the functions and services provided by watersheds to the social and economic development of Bromova?	
How can valuation answer the policy question?	• Valuation can assign value to ecosystem services from watersheds. This can be compared with the economic value of other sectors (e.g. agricultural sector)
How can valuation help make better decisions in relation to the policy question?	• Valuation provides an unbiased measure of the ecosystem services from watersheds
What valuation techniques can be used to answer the policy question?	• Monetary valuation: timber, water, ecotourism • Non-monetary valuation: spiritual and cultural services

Bromova discusses ecosystem service valuation for Exercise 3.4.

8. Policy and Support Tools

8.1 Policy support tools in relation to IPBES

Then, Claire provided an overview of the policy support tools and methodologies component of the assessment process (**Figure 8**). Policy support tools and methodologies can inform, assist and enhance relevant decisions, policy making and implementation at different scales to address biodiversity loss and degradation of ecosystem services. Assessments are key mechanisms to identify effective policy instruments, and the policy support tools and methodologies needed to implement those instruments in the most rigorous and effective way (e.g. protected areas schemes, payment for ecosystem services schemes).

The role of IPBES in helping decision-makers to identify relevant tools and methodologies was also outlined. IPBES aims to support policy formation and implementation through the identification of policy-relevant tools and methodologies (including those arising from assessments) to facilitate access to relevant tools and methodologies by decision-makers. IPBES plans to develop a 'Catalogue of Policy Support Tools and Methodologies' (deliverable 4c).

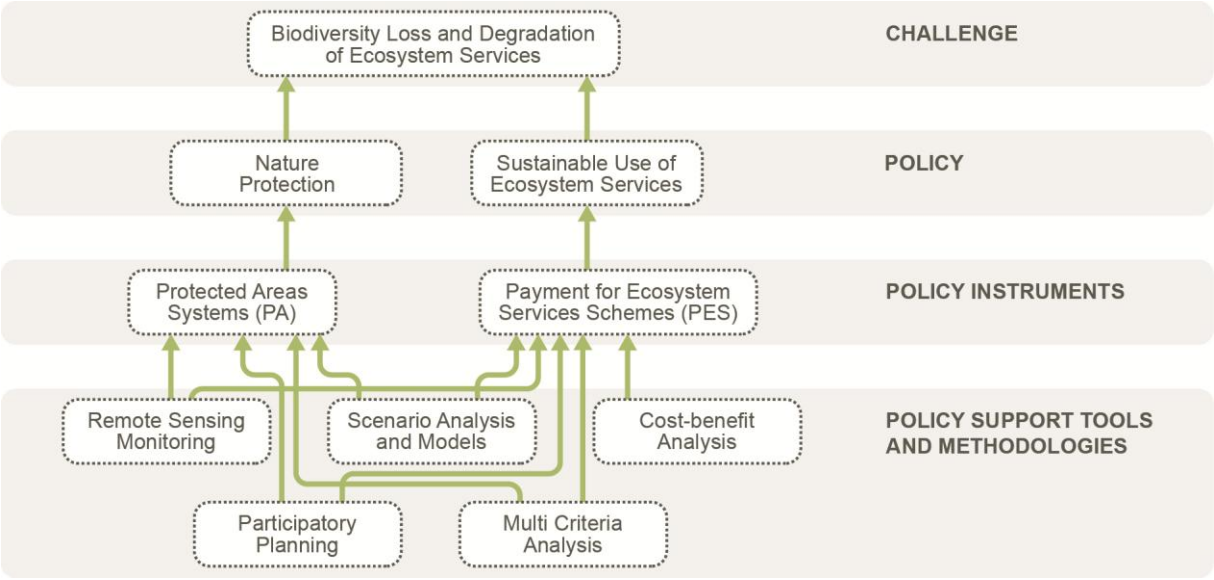


Figure 8. Schematic representation of the context of policy support tools and methodologies.
Source: IPBES Guide for Assessments

8.2 Considering policy and response options at a national scale

Then, Nadine introduced the response options element of the assessment process. This element aims to identify different 'possible responses' in order to prevent the deterioration for ecosystem services and to restore services that have been lost. Effective response options take into account the complex socio-ecological processes in which ecosystems and human interaction take place, and include broad stakeholder participation. Examples of response options were provided, and the following key questions outlined that could be useful when developing response options:

- What is the ecosystem change affecting human well-being that needs to be addressed and why?
- Who will respond?
- Which strategies will they choose?
- How will these strategies be structured?
- What will their effects be on both ecosystems and human well-being?

8.3 Exercise 3.5: Identifying policy and response options

Participants were asked to discuss the most important changes that need to be addressed to prevent the deterioration of a priority ecosystem service and the negative effects on human well-being. They were also asked to develop response options to address individual changes, and outline which actors would be best placed to implement them. **Table 9** below summarises the response options from one group.

Table 9. Response options identified by Samlo in Exercise 3.5.

Priority ecosystem service: Pollination			
Change to address	**Reason**	**Response options**	**Actors**
Loss of pollinators	• Reduced food production • Food insecurity in local communities • Genetic erosion • Species loss	• Apply an ecological cultivation model (agro-forestry) • Provide incentives to reduce the use of pesticides • Land-use planning • Restore habitats	• Farmers • Agro-businesses • Government • Research institutions/academia • NGOs

8.4 Peer review

Katherine provided a presentation on the peer review stage and its importance to ensure legitimacy and robustness in the assessment process as well as to help secure greater buy-in to the findings. An overview of the IPBES peer review process, its core principles and outputs was also provided.

8.5 Ecosystem assessments and mainstreaming

Then, Nadine gave a presentation on tips and tactics to use an ecosystem assessment as a mainstreaming tool. Ecosystem assessments are powerful mainstreaming tools as their outputs can be used for 'upstream' (e.g. policy, legislation, institutional development, planning) or 'downstream' (e.g. locally based stewardship programmes, changes in production practices) interventions. An outline of relevant entry points for mainstreaming ecosystem assessment findings, and essential activities throughout the mainstreaming processes were provided. The importance of developing a business case for ecosystem services in a specific decision-making process was also highlighted. To conclude, examples of mainstreaming ecosystem assessment findings in the UK, Mali and Guatemala were provided.

9. Communication and Outreach

Katherine and Nadine introduced the last stage of the Ecosystem Assessment Framework, the Communication and Outreach stage. This session included presentations and exercises on designing a communication strategy, distilling key messages and findings, communicating uncertainty, and designing targeted communication products.

9.1 The role of communication in an ecosystem assessment

Katherine highlighted that assessments can succeed or fail depending on the communication strategy. The process and the outputs of an ecosystem assessment are critical to communications as the impact of an assessment will depend equally on communicating the legitimate and credible process as it will on communicating the policy-relevant findings. The communication strategy needs to take into account internal communication (e.g. Funders, Secretariat, Assessment Team), external communication (e.g. users, stakeholders), including identifying communication products that meet the needs of decision-makers.

9.2 Exercise 4.1: Designing a communication strategy

Then, participants were tasked with identifying two target audiences that are relevant to their key question (e.g. Government, land owners, media, planners, etc.) and to discuss:

- **Why** you want to communicate with them;
- **What** you want to communicate to them;
- **How** you will present your information (e.g. in what medium);

- **Which stage(s)** in the assessment process you will communicate with them;
- **Where** you could communicate with them (e.g. specific events); and
- what a possible **success criteria** would be**.**

Groups illustrated their discussions through spider diagrams. An example of a target audience from Samlo can be seen in **Figure 9** below.

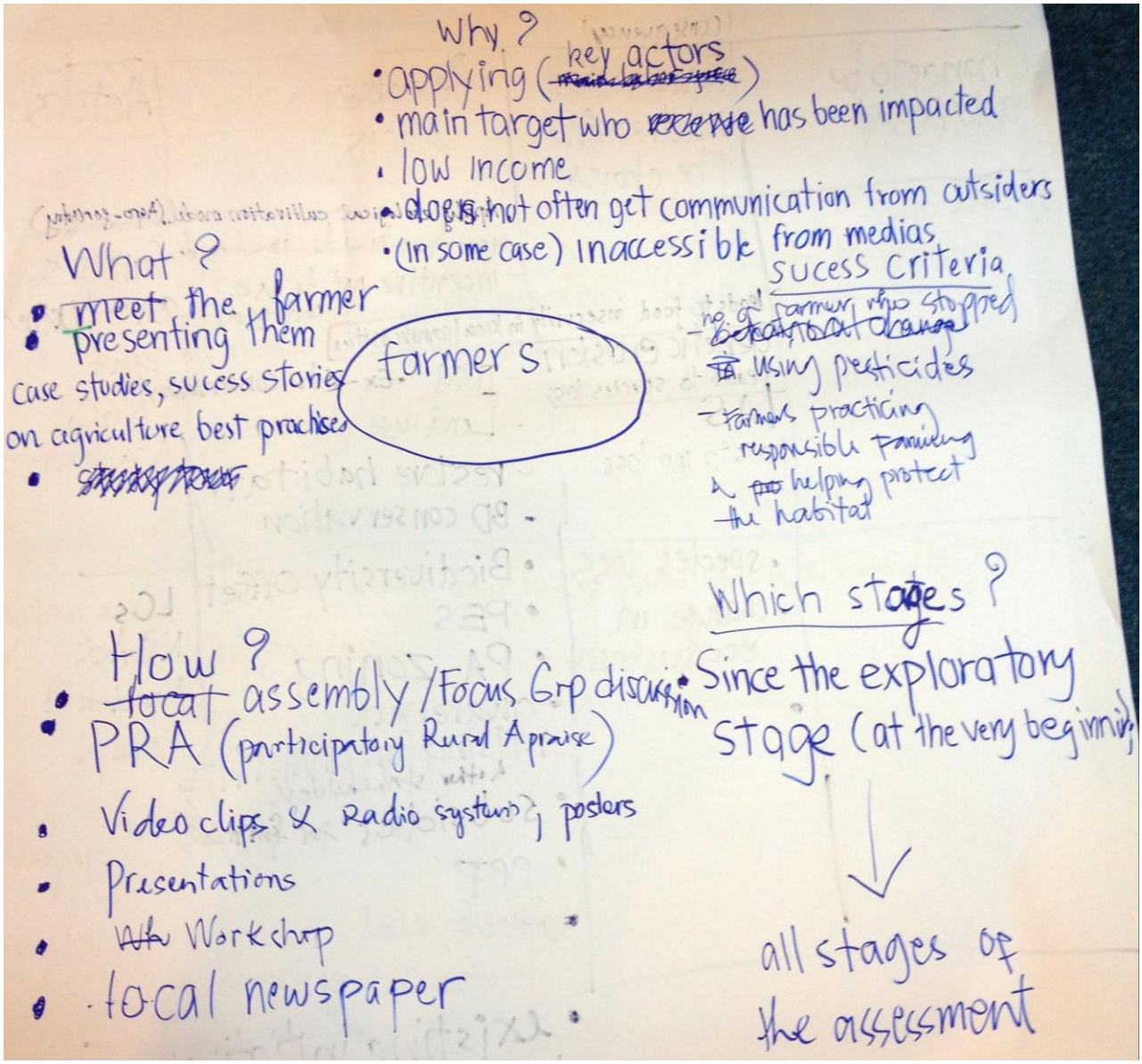


Figure 9. Samlo's target audience for Exercise 4.1.

9.3 Identifying key messages and findings, and communicating uncertainty

Then, Nadine explained the difference between writing key messages and key findings. Key messages are concise, sharp sentences that can be quite general and high-level. On the other hand, key findings are often more technical, containing a fact or figure. Examples from the UK NEA were provided to illustrate this point. The importance of the use of confidence and uncertainty terms related to an assessment's findings was highlighted. An overview of confidence terms within an IPBES assessment was provided, as well as examples of when and how uncertainty terms should be used.

9.4 *Exercise 4.2: Communicating to target audiences*

Following an introduction to designing tailored communication outputs and examples, participants were asked to design a tailored communication product to communicate their fictional country's assessment findings to a target audience. All groups chose different methods to communicate their assessments' findings to their target audiences. Bromova, for example planned a YouTube video to raise awareness on watersheds targeted at decision-makers and the general public (**Figure 10**). Samlo, designed a poster and a radio programme targeted at local farmers to raise awareness on the role of pollinators (**Figure 11**). Tandino, planned a Summary for Policy-makers report on the benefits of conserving mangroves, which included key messages, key findings, and GIS maps. Lastly, Panlusia designed factsheets and stickers targeted at local communities to raise awareness on the services provided by tropical forests and the key drivers of change acting on this ecosystem.

Figure 10. Bromova's YouTube video for Exercise 4.2

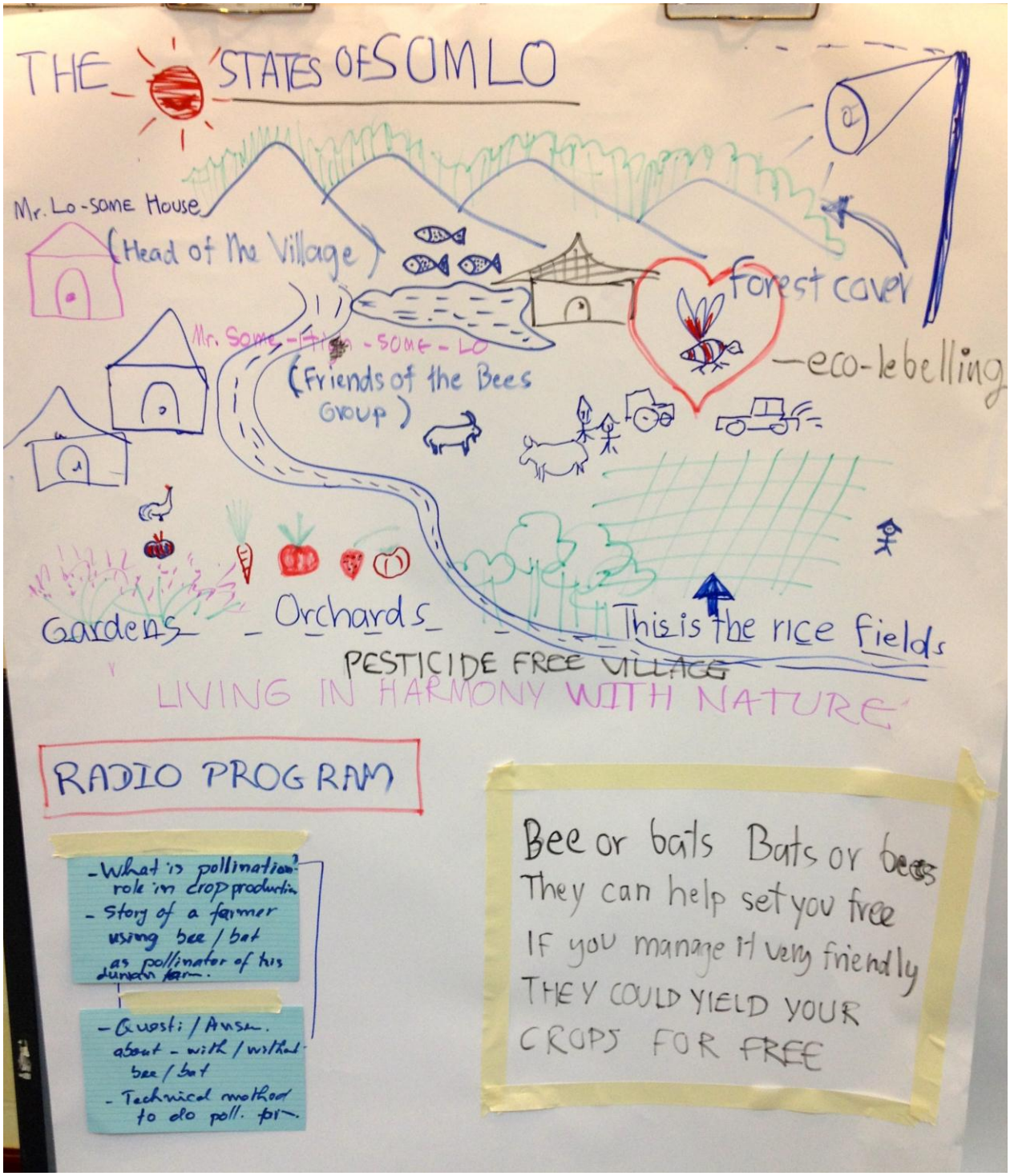


Figure 11. Samlo's poster for Exercise 4.2

Day 4

10. Beginning the Assessment Process

After a recap of Day 3, participants left their fictional countries and moved into their actual country groups (Cambodia, Thailand, and Viet Nam) to begin planning for an ecosystem assessment. This session concluded with the groups presenting in plenary their draft plans for conducting an ecosystem assessment in their respective countries.

10.1 Exercise: what do you need in order to proceed with planning an assessment in your country?

Participants were asked to re-work the Scoping Stage of the Assessment Framework. The following questions were presented in order to help guide the planning process:

- What would you need to do, and who would you need to involve/talk to in order to establish the need for an assessment in your country?
- What would the scope of the assessment be?
- Who would be the key users of the assessment?
- What is the main focus or need for the assessment?
- What key design considerations should you take into account in scoping out the assessment in your country?
- What funding opportunities might be available in your country to support your assessment or the scoping stage?

10.2 Phnom Kulen National Park Ecosystem Management - Cambodia

Participants from Cambodia gave a presentation on a potential sub-national level assessment in the Khnong Phnom Commune. The presentation included information about the ecosystem services and assets available in the area, the key drivers of change, potential response options, data requirements, potential indicators and relevant stakeholders likely to be involved. Participants also identified current opportunities and partners to be involved in the assessment process.

10.3 Ecosystem assessment in selected sites in the Nan province – Thailand

Participants from Thailand provided a presentation on a potential ecosystem assessment in the Nan province. It was highlighted that the variety of ecosystem services provided (i.e. provisioning regulating, supporting and cultural) are directly linked to development and food security in the region. An overview of the ecosystem services, assets, stakeholders, potential policy responses, future scenarios, and capacity building needs was provided.

10.4 Wetland ecosystem assessment plan – Viet Nam

Participants from Viet Nam provided a presentation on their plan to assess wetland ecosystems. The importance of wetlands for environmental and socio-economic reasons in Viet Nam was emphasised. The presentation included the conceptual framework, a tentative work plan, an outline of who needs to be involved in the process, and financial considerations.

11. Capacity Building Needs

This session composed of an introduction by Claire on capacity building, an exercise in which participants considered their capacity building needs and opportunities (i.e. individual and institutional), and concluded with a presentation from Mr Loo Min Jet (UNEP-IEMP).

11.1 Capacity building in relation to IPBES

Claire provided an overview of the work to date by the IPBES Task Force on Capacity Building. It was emphasised that the Task Force is relevant to all IPBES activities and their work is organised in four interrelated tasks:

1. Identifying and prioritising capacity building needs;
2. Partnerships, exchange and training programmes;
3. Increasing access to technical and financial resources; and
4. Building and enabling networks to address capacity building needs.

The main capacity building needs identified by governments/stakeholders and potential sources of support to address these needs was outlined. Lastly, details on the fellowship, exchange and training programme was provided. More information can be found in IPBES/3/3.

11.2 Exercise: Exploring capacity building needs and opportunities

Participants discussed their needs and opportunities in regards to capacity building. The exercise was complemented with a discussion in plenary on matching needs with resources. Then, participants were given Capacity Assessment forms in their country groups such that they could evaluate their own country's readiness to undertake an ecosystem assessment.

11.3 South-South capacity building for ecosystem management in the GMS

Mr Loo Min Jet, focal point for UNEP-IEMP in the Greater Mekong Sub-region, provided a presentation about the Ecosystem Management of Productive Landscapes (EMPL) project, which aims to build capacity to integrate ecosystem management across the region by following a landscape approach. The aims of the project, issues, activities, drivers and regional examples were provided.

12. Workshop Reflections

To conclude the workshop participants evaluated if their expectations of the workshop had been met. Facilitators went through the expectations list and all expectations had been met. Lastly, participants were given evaluations forms and repeated the self-assessment exercise.

12.1 Exercise: Workshop evaluation

Participants completed evaluation forms to identify where the workshop succeeded in meeting expectations and where improvements could be made on the design, content, and structure of the workshop. Participants also rated their level of experience and understanding of ecosystem assessments and IPBES before and after the workshop. Participants' evaluation forms will serve to inform future capacity building workshops regarding ecosystem assessments.

12.2 *Exercise: Self-assessment*

Finally, the self-assessment exercise, as conducted at the beginning of the workshop, was repeated. A comparison of the responses for each question is shown in **Figure 12**. According to the self-assessment there was an overall increase in the understanding and self-confidence to undertake an ecosystem assessment amongst participants.

Q1: Do I understand what an ecosystem assessment is?

I fully understand — *I do not understand at all*

Day 1

Day 4

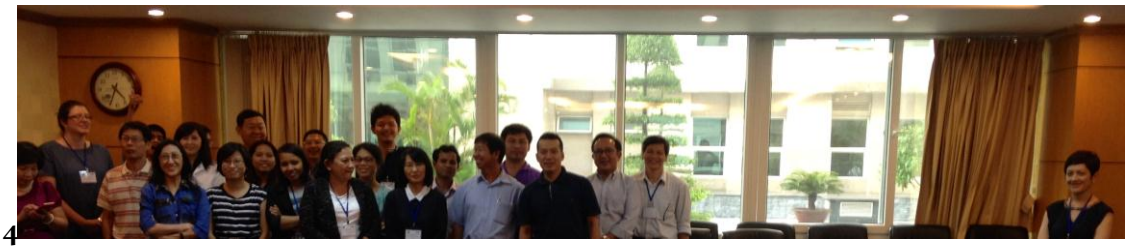


Figure 12(a). How participants assessed their understanding of the ecosystem assessment process at the start and end of the workshop.

Q2: How much information is available in my country to underpin an ecosystem assessment?

A large amount — *Not enough*

Day 1

Day 4

Figure 12(b). How participants assessed their understanding of the ecosystem assessment process at the start and end of the workshop.

Q3: How confident would I feel in taking an ecosystem assessment forward in my country?

Fully confident *Not confident at all*

Day 1

Day 4

Figure 12(c). How participants assessed their understanding of the ecosystem assessment process at the start and end of the workshop.

13. Closing remarks

To wrap up the workshop Dr Claire Brown and Mrs Nadine Bowles-Newark from the SGA Network Secretariat, and Mrs Mai Huynh Thi from BCA-VEA-MONRE provided concluding remarks. Claire began by thanking UNEP ROAP for their collaboration; and VEA-MONRE in particular for their excellent support prior to and during the workshop, and for providing the space and facilities to hold the workshop. Claire also thanked participants for attending the workshop and for their high level of engagement and hard work. Then, Nadine encouraged participants to join the SGA Network and kindly requested participants to keep the SGA Network Secretariat informed of future assessment activities in their countries or region. Permission was asked to add participants' contact details to the SGA Network mailing list to inform them of future webinars and network activities. Lastly, Mai congratulated the workshop organisers on the delivery of a successful workshop, and thanked participants for their valuable contributions.

Annex 1. Participant List

Name	Institution	Country	e-mail
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Annex 2: Workshop Agenda

Day 1 (28th September)

Time	Session	Format
08:00	**Meet in the foyer of the hotel ready for a 08:00 departure by bus to the meeting venue.**	
08:45	*Registration*	
Opening Session		
09:00	1. Opening address by MONRE/VEA/BCA	Plenary
09:10	2. Welcome and introductions	Plenary
09:30	***Exercise:*** Self-assessment	Plenary
09:40	3. Workshop objectives and overview	Plenary
09:50	***Discussion****: Expectations of this workshop*	Break-out
10:00	***Tea/Coffee break***	
Setting the Scene in the Region		
10:15	4. Introduction to the Sub-Global Assessment (SGA) Network	Plenary
10:35	5. Mainstreaming Ecosystem-based Adaptation in Viet Nam: Challenges and Recommendations (Dr Christine Schaefer, GIZ-Vietnam)	Plenary
10:50	6. Biodiversity Landscapes & Livelihoods (Mr Teo Dang Do, GMS-Environment Operations Center, Asian Development Bank)	Plenary
11:00	7. The ASEAN Working Group on Coastal and Marine Environment presentation (Ms Lea Avilla, Department of Environment and Natural Resources-Biodiversity Management Bureau)	Plenary
IPBES Assessments		
11:10	8. Introduction to IPBES - Its functions and work programme - Regional Assessments - IPBES Assessment Guide - Catalogue of Assessments	Plenary
11:30	***Lunch***	
13:00	9. IPBES assessments and the ecosystem assessment framework	Plenary

13:15	***Exercise:*** *Ecosystem services and human well-being*	Break-out
Ecosystem Assessment Framework: The Scoping Stage		
13:30	10. Defining the scope and context of an assessment	Plenary
13:40	***Exercise*** *1.1: Determining the need for an assessment*	Break-out
14:15	11. Stakeholder engagement	Plenary
14:20	***Exercise*** *1.2: Consulting with stakeholders*	Break-out
14:50	12. Defining key questions for the assessment to address	Plenary
15:05	***Tea/coffee break***	
15:35	***Exercise*** *1.3: Developing policy relevant questions*	Break-out
16:15	13. Key design considerations	Plenary
16:30	***Exercise*** *1.4: Key design considerations*	Break-out
17:05	***Discussion****: Scoping stage summary*	Plenary
17:15	***Close*** Bus back to the hotel	
18:00	**Meet in foyer of the hotel** **Dinner at Sen Buffet Restaurant, 60 Ly Thai To, Hoan Kiem Dist, Hanoi**	

Day 2 (29th September)

Time	Session	Format
08:15	**Meet in the foyer of the hotel ready for a 08:15 departure by bus to the meeting venue.**	
09:00	***1. Workshop commences:*** Recap Day 1 and introduce Day	Plenary
Ecosystem Assessment Framework: The Design Stage		
09:10	2. Key considerations: governance structure, work plan, funding	Plenary
09:20	***Discussion****: Budgeting for an assessment*	Individual
09:30	***Exercise*** *2.4: Selling the assessment concept*	Break-out
10:00	***Tea/Coffee break***	
10:15	3. Introduction to the IPBES conceptual framework	Plenary

Time	Session	Format
10:35	***Exercise**: Elements of the IPBES conceptual framework*	Break-out
10:55	4. Using the IPBES conceptual framework & scale considerations	Plenary
11:20	***Exercise** 2.3: Applying the IPBES conceptual framework to a national assessment*	Break-out
11:40	***Lunch***	
13:10	***(Cont.) Exercise** 2.3: Applying the IPBES conceptual framework to a national assessment*	Break-out
14:00	***Discussion:** Design stage summary– lessons, key learning points, etc.*	Plenary
	Ecosystem Assessment Framework: The Implementation Stage	
14:15	5. Assessing status and trends of ecosystems and their services	Plenary
14:35	***Exercise** 3.1: Identifying data and ecosystem service indicators*	Break-out
15:00	6. The concept of scenarios and their role in the ecosystem assessment process	Plenary
15:30	***Tea/Coffee break***	
16:00	***Exercise 3.2**: Identifying the role of scenarios*	Break-out
16:30	7. Using scenarios in the assessment process	
16:40	***Exercise 3.3**: Using scenarios*	Break-out
17:15	*Status and trends and Scenarios summary **discussion** – lessons, key learning points, etc.*	Plenary
17:20	***Close*** Bus back to the hotel	
18:00	**Meet in foyer of the hotel** **Dinner at SumoBBQ Restaurant, 15 Huynh Thuc Khang, Dong Da Dist, Hanoi**	

Day 3 (30th September)

Time	Session	Format
08:15	**Meet in the foyer of the hotel ready for a 08:15 departure by bus to the meeting venue.**	

Time	Session	Format
09:00	1. ***Workshop commences:*** Recap Day 2 and introduce Agenda for Day 3	Plenary
09:10	2. Conceptualising multiple values	Plenary
09:25	3. Introducing valuation approaches (Dr Adis Israngkura, National Institute of Development Administration (NIDA))	Plenary
10:00	***Exercise 3.4****: Thinking about valuation*	Break-out
10:30	***Tea/Coffee break***	
Policy and Support Tools		
10:45	4. Policy support tools in relation to IPBES	Plenary
11:00	5. Considering policy and response options at a national scale	Plenary
11:15	***Exercise 3.5****: Identifying policy and response options*	Break-out
11:40	***Lunch***	
13:10	***(Cont.) Exercise 3.5****: Identifying policy and response options*	Break-out
13:30	***Discussion:*** *Valuation and Policy and Response Options summary– lessons, key learning points, etc.*	Plenary
13:40	Peer review	Plenary
13:50	6. Ecosystem assessments and mainstreaming	Plenary
Communication and Outreach		
14:05	7. The role of communication in an ecosystem assessment and communicating uncertainty	Plenary
14:35	***Exercise*** *4.1: Designing a communication strategy*	Break-out
15:05	***Tea/Coffee break***	
15:30	8. Communicating uncertainty	Plenary
16:00	***Exercise*** *4.2: Communicating to target audiences*	Break-out
16:50	***Discussion:*** *Communication summary– lessons, key learning points, etc.*	Plenary
17:00	**Close** Bus back to the hotel	
18:00	**Meet in the foyer of the hotel** **Dinner at Highway 4, 101 Tran Thai Tong, Cau Giay Dist, Hanoi**	

Day 4 (1st October)

Time	Session	Format
08:15	**Meet in the foyer of the hotel ready for a 08:15 departure by bus to the meeting venue.**	
09:00	1. ***Workshop commences:*** Recap Day 3 and introduce Agenda for Day 4	Plenary
	Beginning the assessment process in your country	
09:10	***Exercises****: What do you need in order to proceed with planning an assessment in your country – implementing what you have learnt so far*	Break-out
10:00	***Tea/Coffee break***	
10:15	***(Cont.) Exercises****: What do you need in order to proceed with planning an assessment in your country – implementing what you have learnt so far*	Break-out
11:30	***Lunch***	
13:00	***Discussion:*** *Beginning the assessment process in your countries – including on transboundary considerations*	Plenary
	Capacity building needs	
13:30	2. Exploring capacity building needs and opportunities in your country	Plenary
14:00	***Exercise****: Exploring capacity building needs and opportunities*	Break-out
	Workshop reflections	
14:30	3. Evaluation	Individual
14:50	***Exercise:*** Self-assessment – take 2	Plenary
15:00	4. Closing remarks & next steps	Plenary
15:10	***Close*** Bus back to the hotel	
18:00	**Meet in foyer of the hotel** **Dinner at Ba Mien Restaurant, 81 Duy Tan, Cau Giay Dist, Hanoi**	