REGIONAL FLYWAY INITIATIVE TRAINING SERIES:

Workshop on Wetland Ecosystem Services and Nature-based Solutions

BANGLADESH

27–29 May 2024

East Asian-Australasian Flyway - Regional Flyway Initiative

Introduction to the Tools for Assessing Ecosystem Services

Stefano Barchiesi, PhD

Senior Ecosystem Services Officer

BirdLife International

stefano.barchiesi@birdlife.org

Decision tree for tool selection

Adapted from Neugarten et al., 2018.
https://portals.iucn.org/library/node/47778

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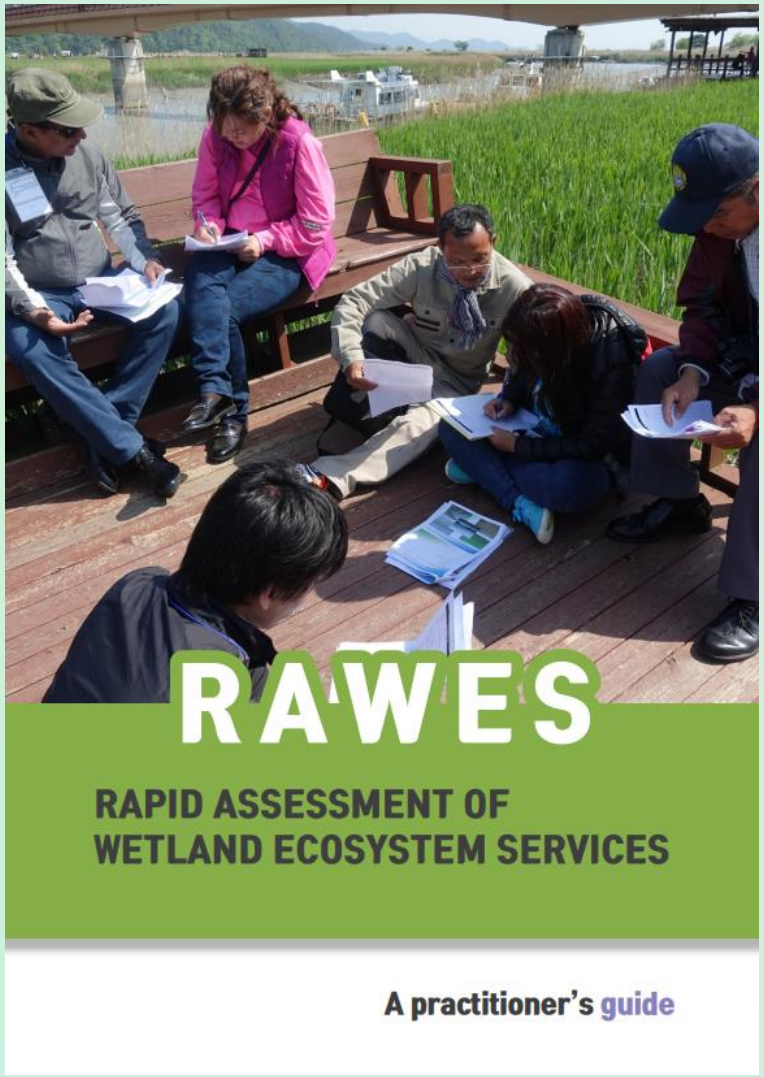
Partnership for nature and people

Rapid Assessment of Wetland Ecosystem Services (RAWES)



13th Meeting of the Conference of the Contracting Parties
to the Ramsar Convention on Wetlands

"Wetlands for a Sustainable Urban Future"
Dubai, United Arab Emirates, 21-29 October 2018

Resolution XIII.17

Rapidly assessing wetland ecosystem services

1. RECOGNIZING that, to achieve the Mission of the Ramsar Convention as described in the Strategic Plan 2016-2024, it is essential that vital ecosystem functions and the ecosystem services that wetlands provide to people and nature are fully recognized, maintained, restored and wisely used and that the need to develop approaches for assessing both ecosystem functions and ecosystem services is recognized;

2. RECALLING that Annex A to Resolution IX.1 on *Additional scientific and technical guidance for implementing the Ramsar wise use concept* defines the ecological character of wetlands as "the combination of the ecosystem components, processes and benefits/services that characterize the wetland at a given point in time"; ALSO RECALLING that the *Guidance for valuing the benefits derived from wetland ecosystem services* (Ramsar Technical Report No.3 / Technical Series No.27 of the Convention on Biological Diversity) provides guidance for valuing wetlands and advice on when and why wetland valuation should be undertaken and sets out a framework for the integrated assessment and valuation of wetland services;

3. NOTING that a priority area of focus for the Convention under the Ramsar Strategic Plan 2016-2024 (Resolution XII.2) is to enhance the information about ecosystem functions and the ecosystem services that wetlands provide to people and nature; ALSO RECALLING Target 11 of the Ramsar Strategic Plan 2016-2024, "Wetland functions, services and benefits are widely demonstrated, documented and disseminated", and that the assessment of ecosystem services of Wetlands of International Importance (Ramsar Sites) is a key indicator of progress against this target;

4. FURTHER recognizing that, under Resolution XII. 3[1], on *Enhancing the languages of the Convention and its visibility and stature, and increasing synergies with other multilateral environmental agreements and other international institutions*, Contracting Parties and other stakeholders are encouraged "to increase their efforts to communicate on the values of ecosystem services of wetlands in other sectors' strategies, plans and regulations, and integrate them into a basin approach to land-use plans and other relevant local, national and global decisions";

Rapid Assessment of Wetland Ecosystem Services (RAWES)

- Ramsar-specific
- Systemic
- Rapid (2 person-days)
- Qualitative
- Comprehensive

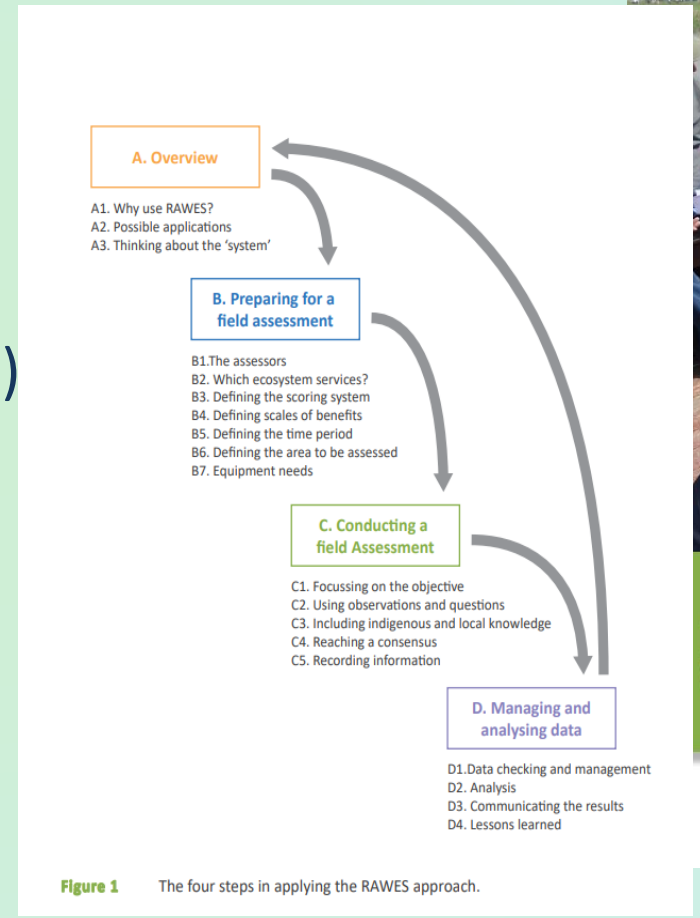
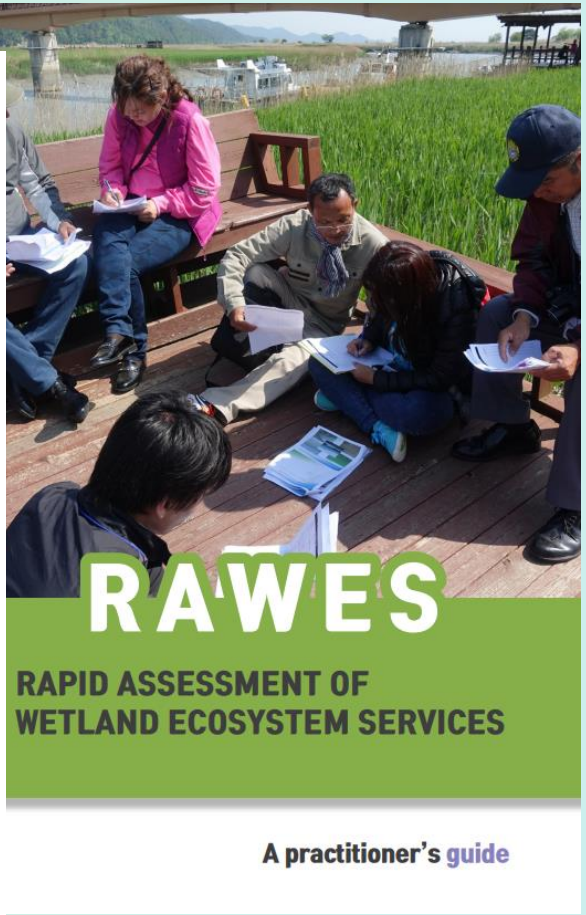


Figure 1 The four steps in applying the RAWES approach.



What is TESSA?

Toolkit for Ecosystem Service Site-based Assessment

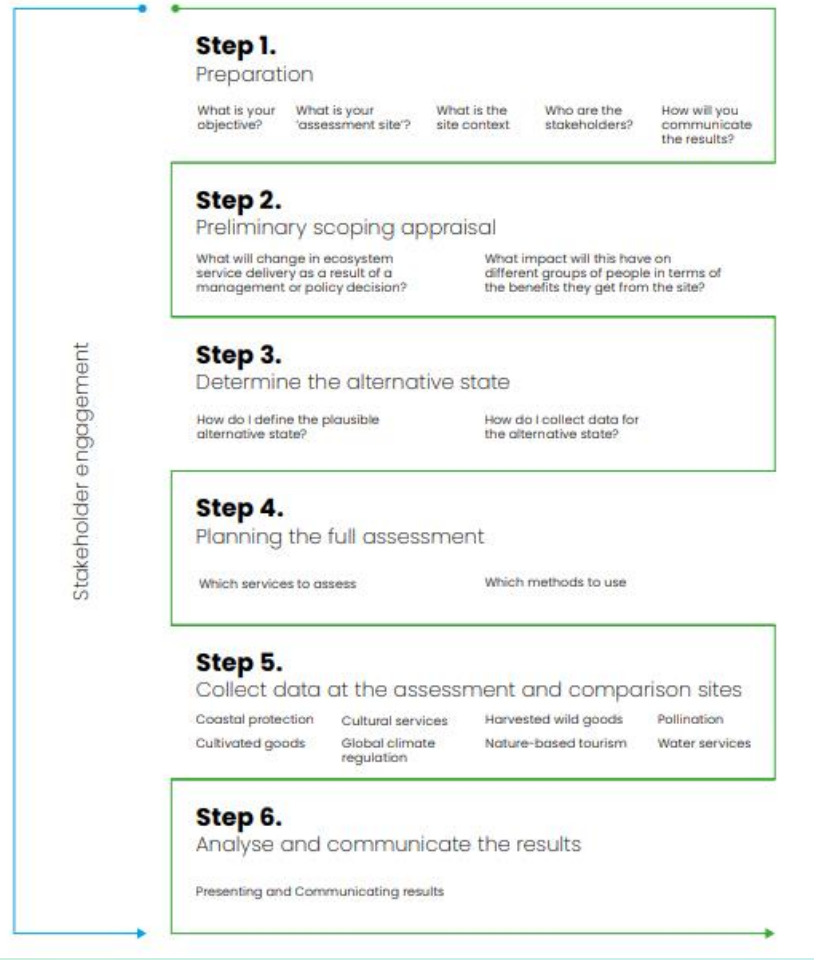
- ✓ Innovative, yet practical
- ✓ For non-experts
- ✓ Low-cost methods
- ✓ Scientifically robust
- ✓ Site to Landscape Scale (100 ha – 10,000 ha)
- ✓ Trade-offs and beneficiaries

https://www.birdlife.org/tessa-tools/

TESSA – A Step by Step Guidance

Allows users to develop an understanding of the benefits people receive from nature, and assess their value in order to generate information for efficient decision-making

- Set the objectives of the assessment
- Decide on what services to focus
- Methods to measure ecosystem services
- Present and communicate the results



A collaborative contribution

The Toolkit for Ecosystem Service Site-based Assessment has been developed by

tessa

a.r.u.

BirdLife INTERNATIONAL

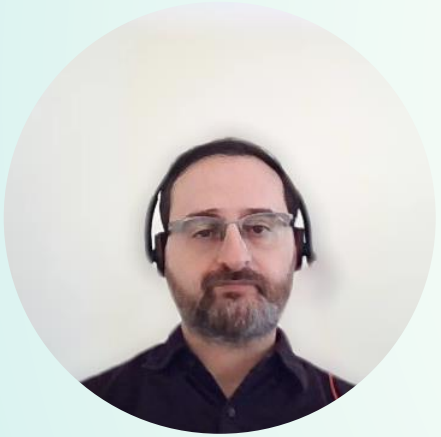
UNIVERSITY OF CAMBRIDGE

TROPICAL BIOLOGY ASSOCIATION

rspb giving nature a home

UN environment WCMC

University of Southampton



Piloting, feedback, development and improvement of TESSA

Donors

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Cambridge Conservation Initiative

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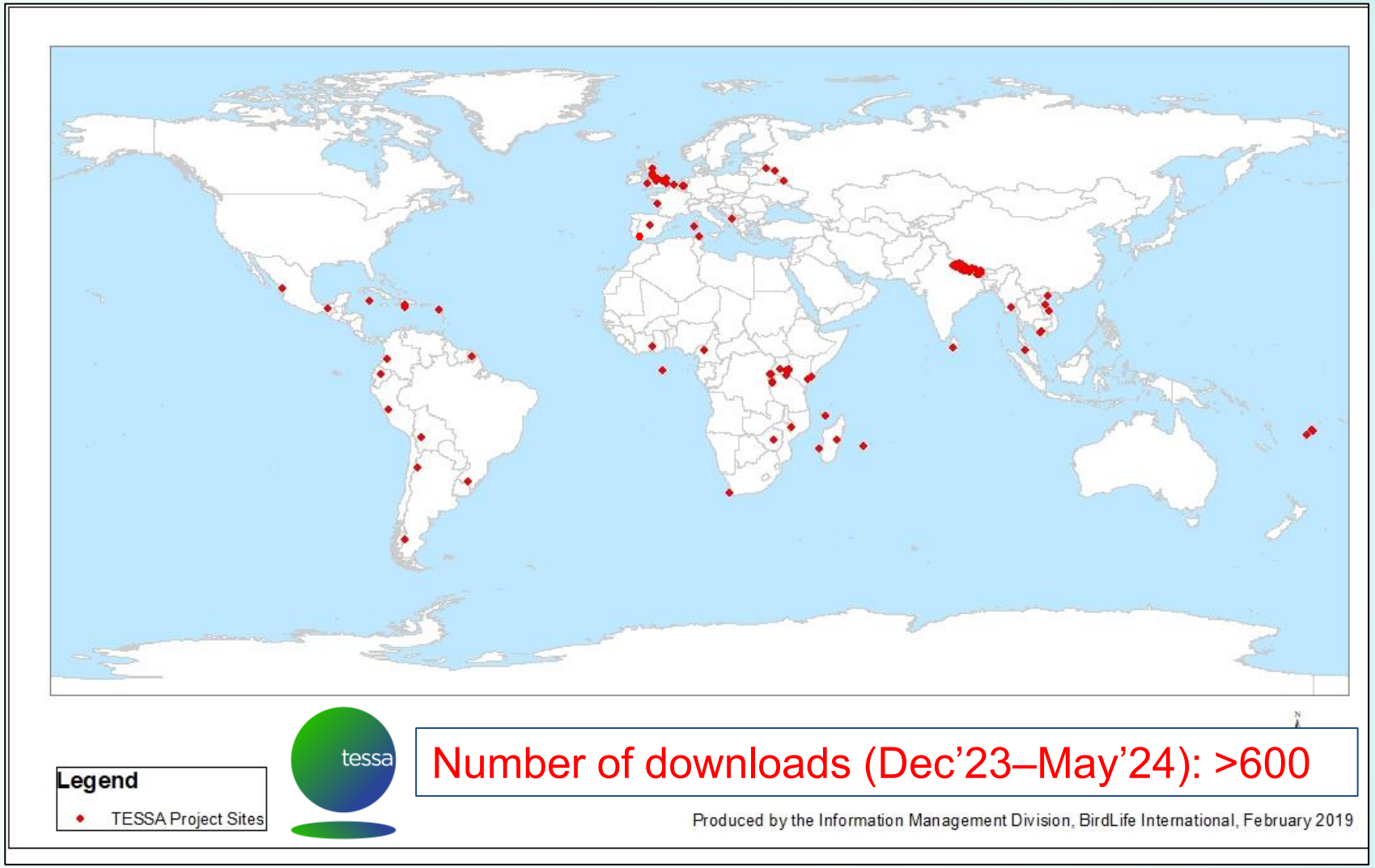
BANCA

AVES Y CONSERVACIÓN BIRDLIFE EN ECUADOR

TESSA applications worldwide



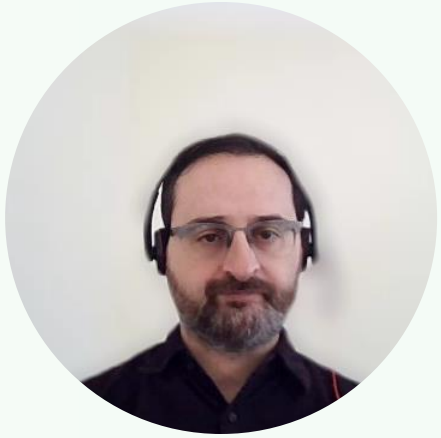
TESSA Publications and Case Studies: https://www.birdlife.org/tessa-tools/

TESSA users

- Int'l NGOs / NGOs / GOs
- **Conservation practitioners (first target)**
- **Forestry, fisheries, water managers, land use planners, development organizations, researchers, etc.**
- Expanding to **corporate users**

How to use TESSA?

Key Concepts in TESSA



- Assessing the impacts of change – The Alternative State
- Comparative valuation of multiple ecosystem services
- Importance of beneficiaries and trade-offs
- Step-by-step framework

Assessing the impact of change

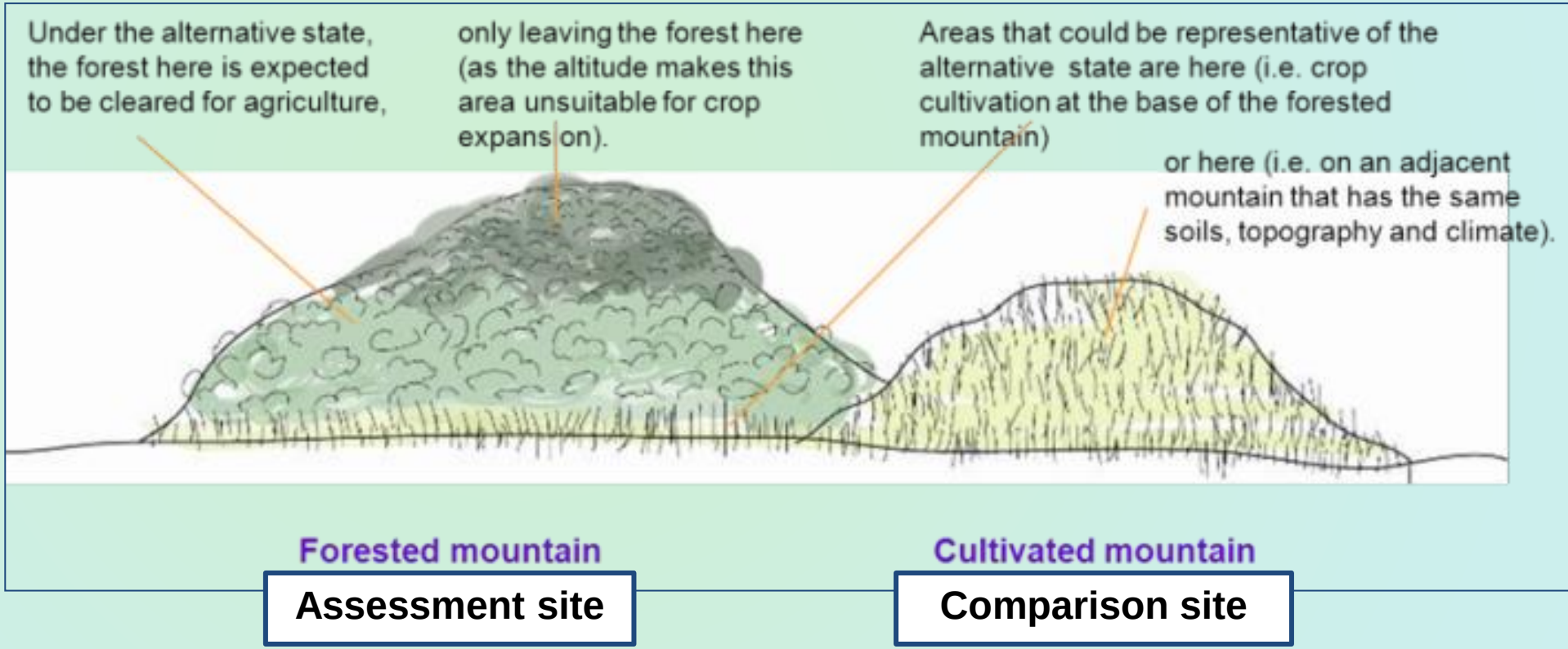
CHANGE

Site assessment
(current state)
100% Native forest

Alternative state
95% Subsistence agriculture
5% Secondary Forest

How to measure ES in the Alternative State conditions?

- As much as possible, measurements should be taken from a real place to represent the alternative condition of your **assessment site** = the **comparison site(s)**



Why comparative valuation of multiple ES?

- ✓ Simple assessment of the gross values of a particular service is less useful - Relative values give decision-makers an idea of the net consequences of decisions
- ✓ Understand the impacts of management or land-use change on ES delivery
- ✓ Influence decision-making and promote efficient planning
- ✓ Preserve ES & their associated benefits people rely on
- ✓ Inform on human well-being & biodiversity conservation objectives

Beneficiaries

An ecosystem service only exists if someone derives benefits from it.

Social, political, economic and ecological factors play a role in the **distribution of benefits**, and the **impacts of change.** These may not be equitable.

It is essential to **understand who the beneficiaries are** so that the full consequences of changes in ES can be assessed.

TESSA v3.0

Air quality regulation (2023)

Ecosystem services included in TESSA

Global climate regulation

Harvested wild goods

Water (provision, quality)

Cultivated goods

Nature-based recreation

Cultural

Pollination

Coastal protection

v2.0 (2017)

https://www.birdlife.org/tessa-tools/

6 Steps of TESSA

Qualitative assessment
Create/gather LULC of the site
Identify Key Stakeholders

Workshops/Meetings – Scoping appraisal

Identify the foreseeable change of the site

Select methods for the ES assessment
Field collection / Secondary data

Analysis of biophysical and economic values
Communication of results

Step-by-step framework

Figure 4. TESSA Step by Step Framework

Stakeholder engagement

Step 1.
Preparation
What is your objective? | What is your 'assessment site'? | What is the site context | Who are the stakeholders? | How will you communicate the results?

Step 2.
Preliminary scoping appraisal
What will change in ecosystem service delivery as a result of a management or policy decision? | What impact will this have on different groups of people in terms of the benefits they get from the site?

Step 3.
Determine the alternative state
How do I define the plausible alternative state? | How do I collect data for the alternative state?

Qualitative +++
Quantitative +

Step 4.
Planning the full assessment
Which services to assess | Which methods to use

Step 5.
Collect data at the assessment and comparison sites
Coastal protection | Cultivated goods | Cultural services | Global climate regulation
Harvested wild goods | Nature- based tourism | Pollination | Water services

Qualitative +
Quantitative +++

Step 6.
Analyse and communicate the results
Presenting and Communicating results

Quantitative +++

Importance of stakeholder engagement

- TESSA encourages stakeholder engagement throughout the process from Step 1 through 6

- Guidance on how to identify and engage the appropriate people.

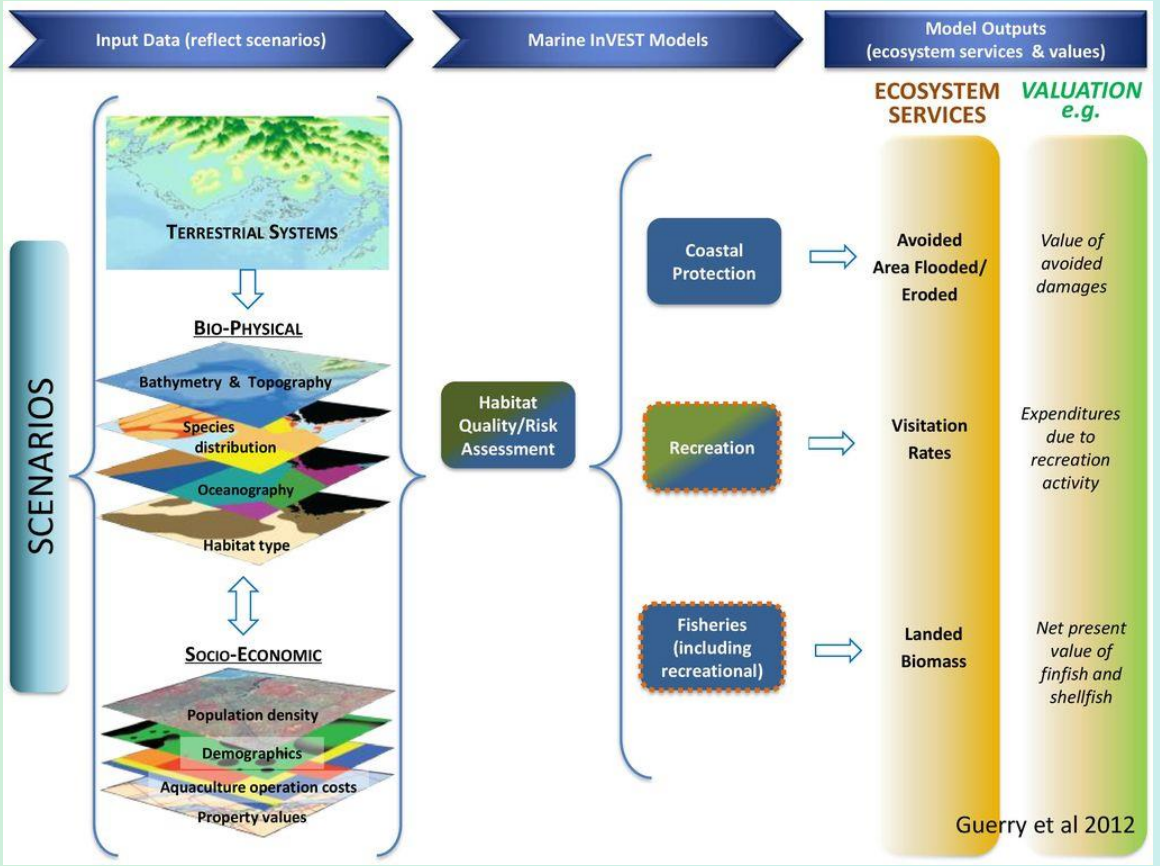
- Engagement throughout the process built strong relationships invaluable for the project(s), improves information flow, and fosters ownership.

TESSA is a flexible framework

- ✓As simple as possible without losing science
- ✓Use to level of own capacity and knowledge
- ✓Designed to be adapted to suit context
- ✓Welcome “add-ons” and other complementary methods
- ✓ Encourage feedback and further improvements through new projects

Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST)

- Modular
- Based on complex equations
- Maps in, maps out
- Stand-alone app but GIS software still needed



natural capital PROJECT https://naturalcapitalproject.stanford.edu/software/invest

Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST)

InVEST models

Carbon | Read more »

Coastal Blue Carbon | Read more »

Coastal Vulnerability | Read more »

Crop Pollination | Read more »

Crop Production | Read more »

Habitat Quality | Read more »

Habitat Risk Assessment | Read more »

Offshore Wind Energy | Read more »

Recreation | Read more »

Reservoir Hydropower Production (Water Yield) | Read more »

Scenic Quality | Read more »

Seasonal Water Yield | Read more »

Sediment Retention | Read more »

Urban Cooling | Read more »

Urban Flood Risk Mitigation | Read more »

Urban Stormwater Retention | Read more »

Water Purification | Read more »

Wave Energy | Read more »

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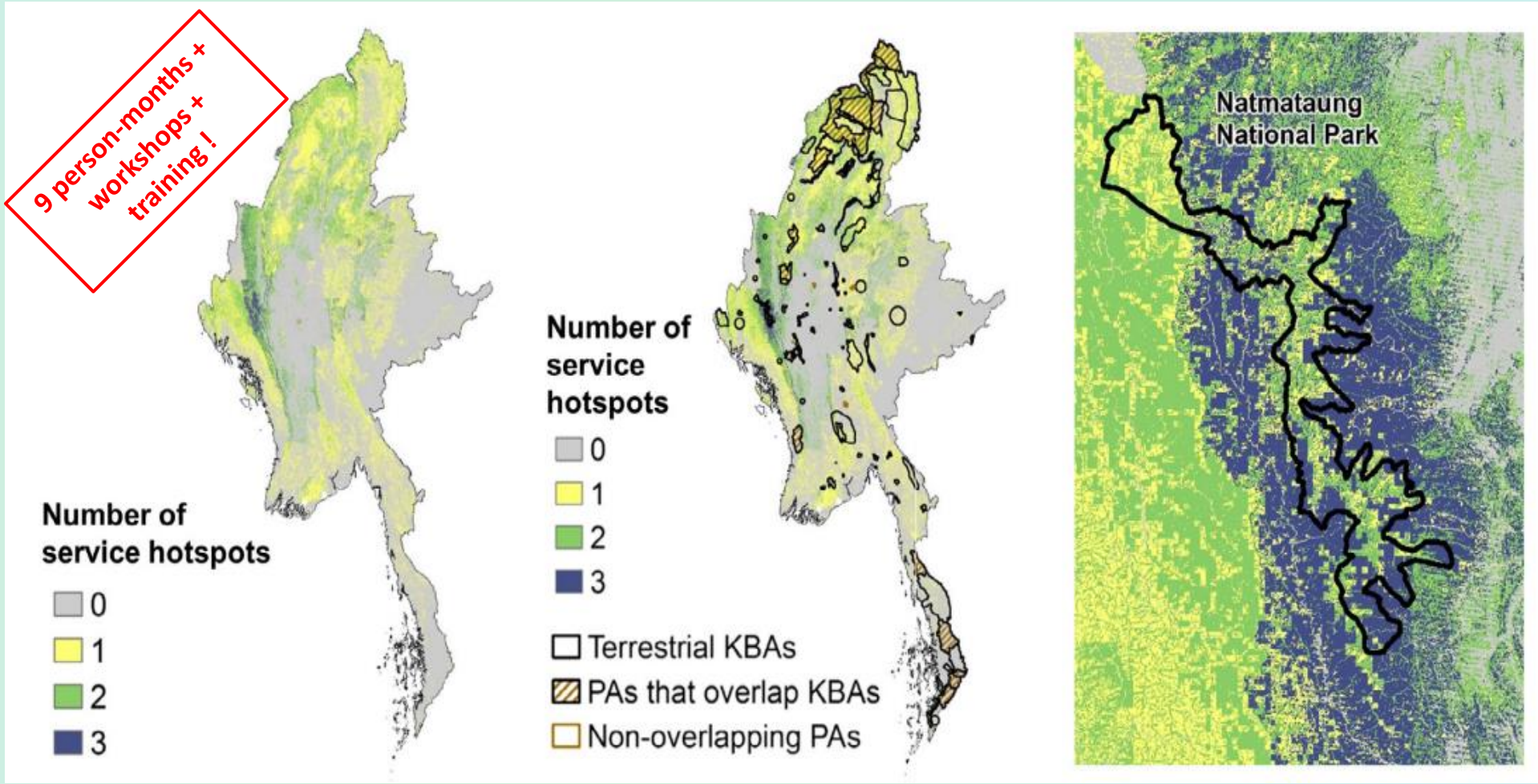
InVEST application: Overlap of ES hotspots and KBAs/PAs



Mandle et al., 2017 in Neugarten et al., 2018.
https://portals.iucn.org/library/node/47778

Any Questions?

Stefano Barchiesi, PhD
Senior Ecosystem Services Officer,
BirdLife International
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