...enabling us to live with opportunities offered by nature

THE HUNGARIAN ECOSYSTEM SERVICES ASSESSMENT – AN EXAMPLE FOR A NATIONAL LEVEL SCIENCE-POLICY INTERFACE

ecosystem services
benefits of nature

5th ECCB
Jyväskylä, 13 June 2018

Anikó Kovács-Hostyánszki

kovacs.aniko@okologia.mta.hu
Institute of Ecology and Botany
MTA Centre for Ecological Research
Hungary

SZÉCHENYI 2020
HUNGARIAN GOVERNMENT
European Union
European Regional Development Fund
INVESTING IN YOUR FUTURE

Strategic Assessments supporting the long term conservation of natural values of community interest as well as the national implementation of the EU Biodiversity Strategy to 2020

Beneficiary: Ministry of Agriculture

Partners:

- Centre for **Ecological** Research , HAS
- Institute for **Soil** Sciences and Agricultural **Chemistry**, Centre for Agricultural Research, HAS
- Research Institute for **Agricultural Economics**
- Department of **Geodesy, Remote Sensing** and Land Offices under the Government Office of the Capital City Budapest
- Hortobágy **National Park** Directorate
- Kiskunság **National Park** Directorate

colourful green
my nature

Timeframe: Oct. 2016 – Oct. 2017, preparation
Nov. 2017 – Dec. 2020, implementation

Budget: HUF 1,07 billion (EUR 3,45 million)

Funding: 85% ERDF + 15% national

PROJECT ELEMENTS

A national programme of state nature conservation

natura

values of nature

species and habitats of community interest – conservation status – field research – habitat mapping – species' protections plan – financing Natura 2000

landscape character

faces of nature

landscape character types and areas – delimitation – national methodology and database – evaluation – quality objectives – monitoring

ecosystem services

benefits of nature

natural and close-to-natural ecosystems – mapping – status assessment – priority list of ecosystem services – socio-economic evaluation

green infrastructure

networks of nature

national green infrastructure network – mapping of initial status – conflict areas – national development plan – target areas of restoration – methodology

BACKGROUND

A national programme of state nature conservation

2nd target

- assess and map the most important ecosystem services (ES)
- integrate these results into policy decisions

ecosystem services
benefits of nature

environment

MAPPING AND ASSESSMENT OF ECOSYSTEM SERVICES (MAES-HU)

AIMS

- build up spatial databases of ecosystems and ES in Hungary
- assess them using biophysical, economic and social indicators
- assess the relations between ES and human well-being
- ensure wide science-policy and social credibility

ecosystem services
benefits of nature

MAES-HU – METHODOLOGY

STEP 1 – Stakeholder interviews

- semi-structured interviews (23 people)
- sectors: nature conservation, forestry and hunting, agriculture, fishing, water management, spatial planning, transport - infrastructure, tourism, industry
- institutional: administrative bodies, state and private companies, NGOs and research institutions
- which ecosystem services were perceived / considered important during work / opportunities

ecosystem services
benefits of nature

PRELIMINARY ES LIST (73)

MAES-HU – METHODOLOGY

STEP 2 – CICES-HU

- CICES 4.3
  - Categorisation of the preliminary list of ES
    - Provisioning
    - Regulation and maintenance
    - Cultural
  - complemented with a few ES missing from the preliminary list by the Executive Panel of Experts

ecosystem services
benefits of nature

MAES-HU – METHODOLOGY

STEP 3 - Prioritization of ES

- Four workshops :
  - forests
  - water bodies and marshy areas
  - grasslands and arable fields
  - urban ecosystems
- Experts from 10 different fields (8-14 per workshop, 98 in total)
- 8-10 most important ES per habitat type
- **cumulative priority list (13 ES)**

ecosystem services
benefits of nature

MAES-HU – ES PRIORITY LIST

PROVISIONING ES

Cultivated crops

Reared animals and their outputs

Plant-based energy resources

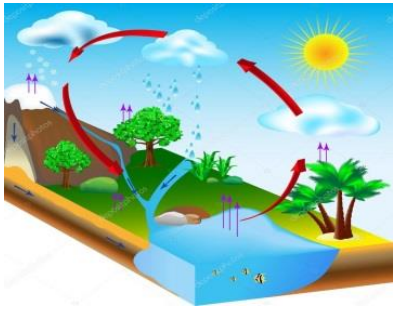
MAES-HU – ES PRIORITY LIST

REGULATION AND MAINTENANCE ES

Mediation of waste, toxics

Erosion control

Hydrological cycle



Flood protection

Pollination

Global climate regulation

Microclimate regulation

MAES-HU – ES PRIORITY LIST

CULTURAL ES

Hiking and ecoturism

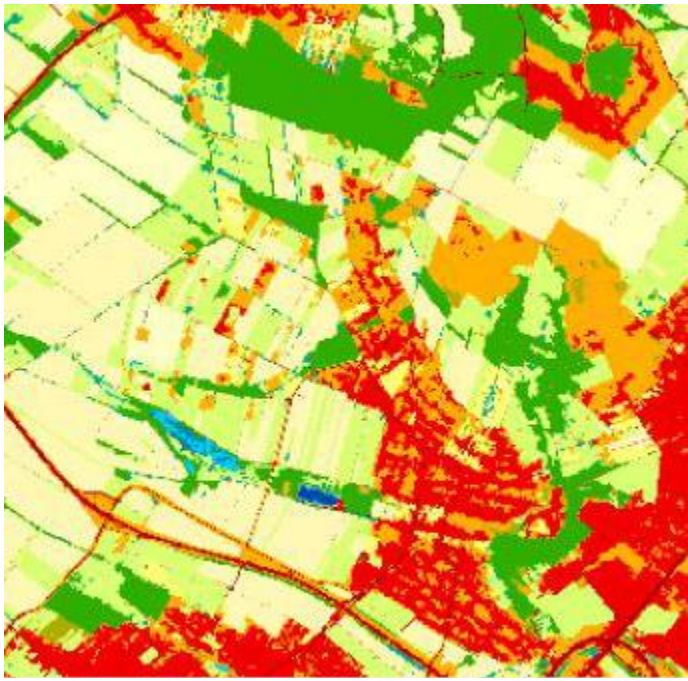
Traditional farming

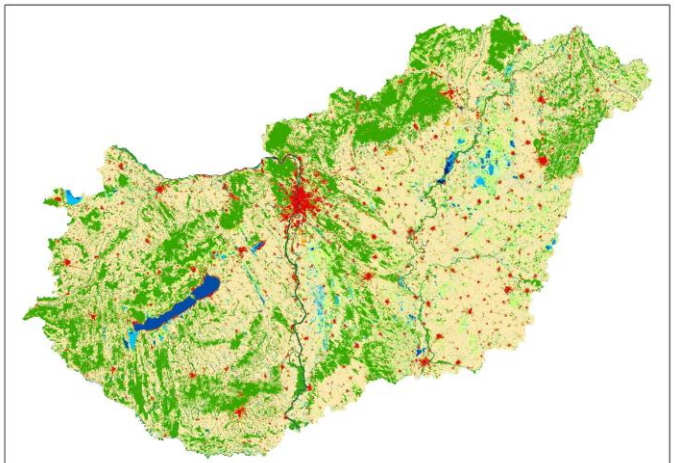
ecosystem services
benefits of nature

MAES-HU – METHODOLOGY

STEP 4 - Mapping of ecosystem types

- habitat classification
- National Habitat Classification System
- incorporating EU databases and national level data such as orthophotographs, agricultural, forestry and soil databases

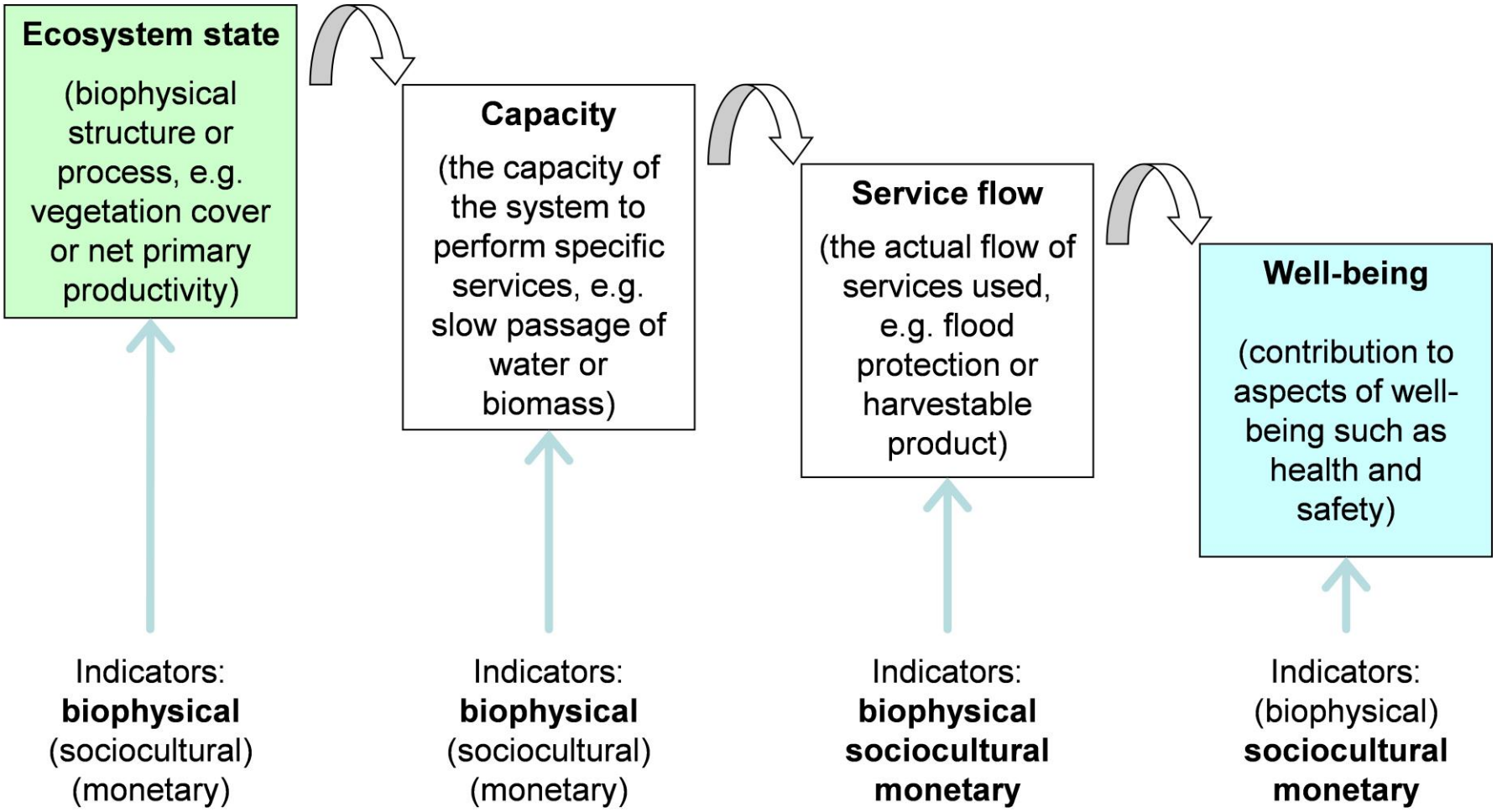




ecosystem services
benefits of nature

MAES-HU – METHODOLOGY

STEP 5 - Mapping and assessment of selected ES



openness-project.eu

MAES-HU – METHODOLOGY

STEP 5 - Mapping and assessment of selected ES

- two years
- six thematic working groups (ca. 40 experts): alimentation/food production, climate and energy, urban, hydrology, pollination, cultural
- rule-based matrix models
- economic evaluation; future scenarios

Possible applications: sustainable management of environmental resources, development of green-infrastructure, improved incorporation of the results into sectoral policies

...enabling us to live with opportunities offered by nature

THANK YOU FOR YOUR ATTENTION!

ecosystem services
benefits of nature

SZÉCHENYI 2020

HUNGARIAN GOVERNMENT

European Union
European Regional Development Fund

INVESTING IN YOUR FUTURE