

geo land



A learning path for HE students and professors

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UN-GGIM

United Nations Committee of Experts on
Global Geospatial Information Management

Geospatial information and open data for landscape monitoring and management

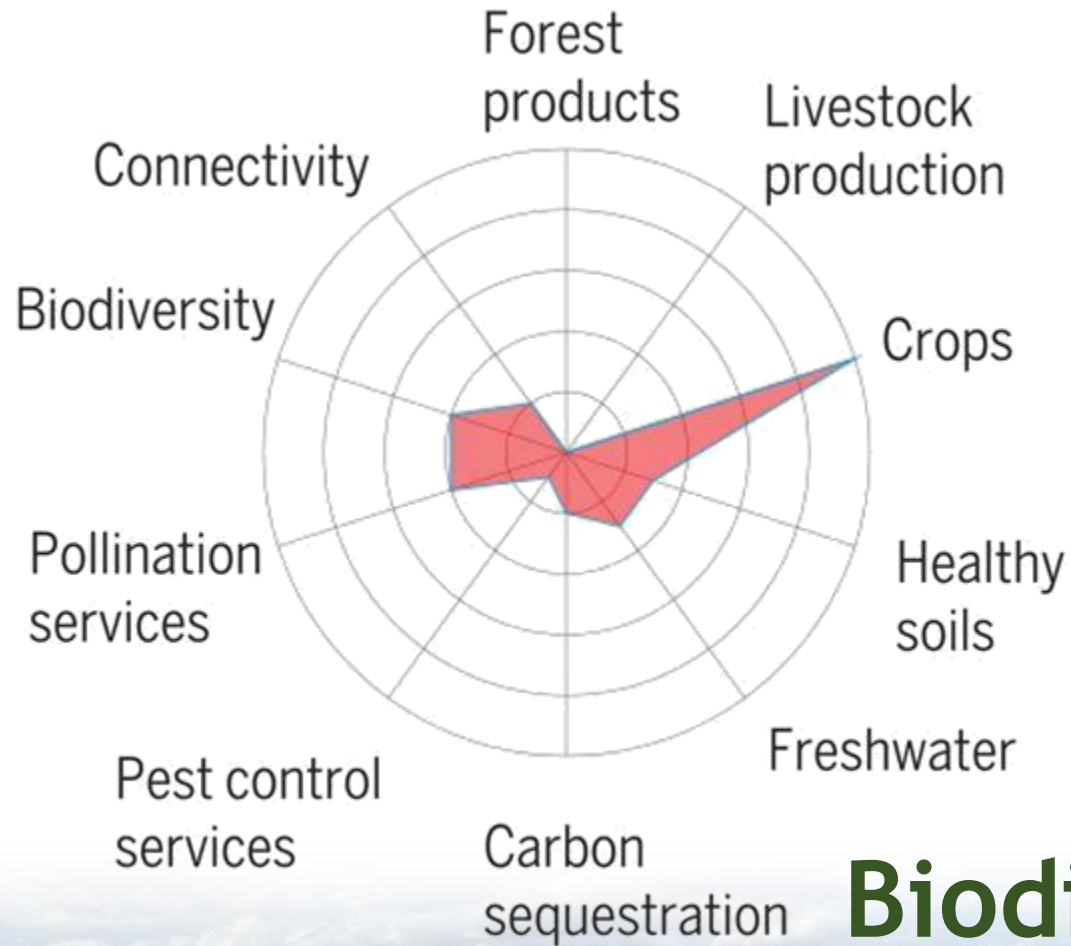
From the UN to the Council of Europe

Karl Donert, EUROGEO

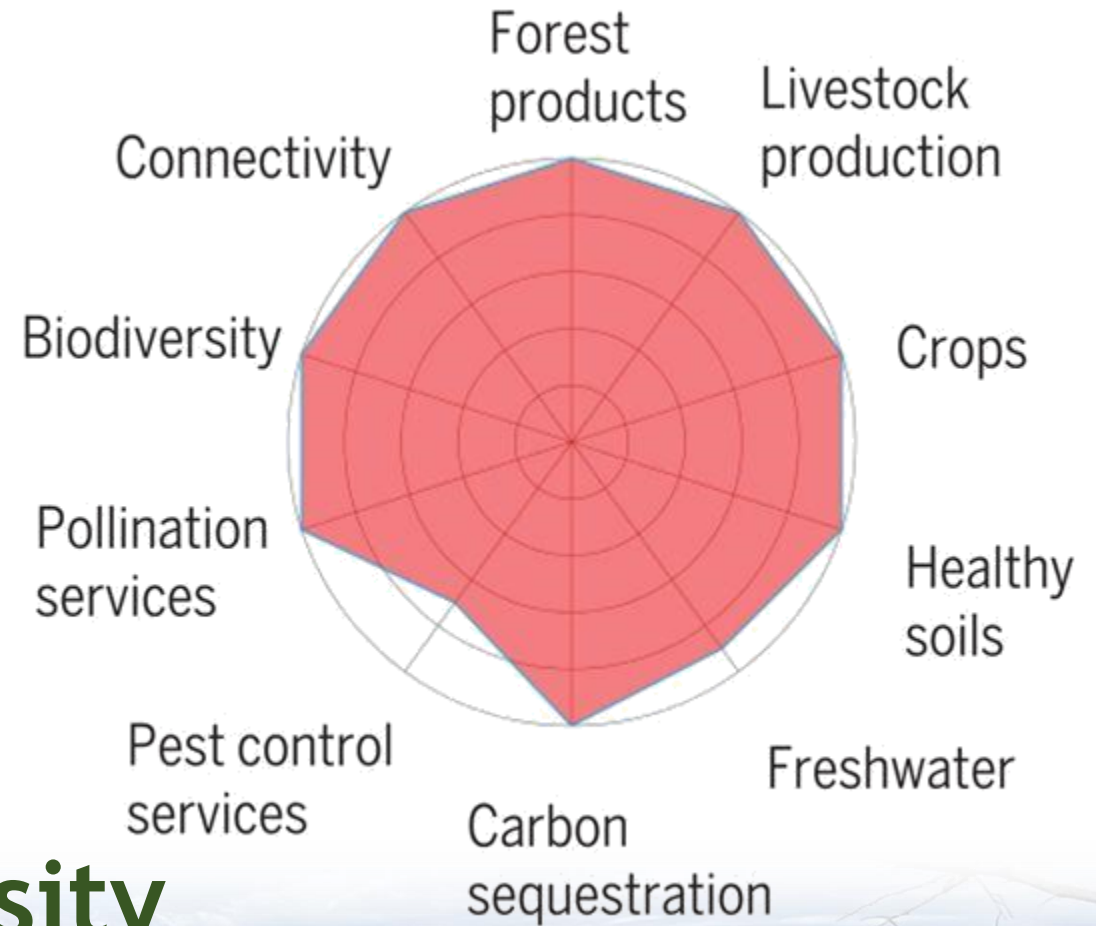
Why Landscapes are important?

| Economic | Social/Cultural | Ecological |
|--|--|---|
| Tourism Branding Attracting Investment Attracts Residents Productive Capacity | Quality of Life Spiritual Renewal Sense of Place and Identity Cultural Values Historical Linkages | Indigenous Habitats Regeneration Conservation Sustainable development |

Monoculture



Mixed land use



Biodiversity

Kremen, C. and Merenlender, A.M., 2018. Landscapes that work for biodiversity and people. *Science*, 362(6412), p.eaau6020.

Why Landscape?

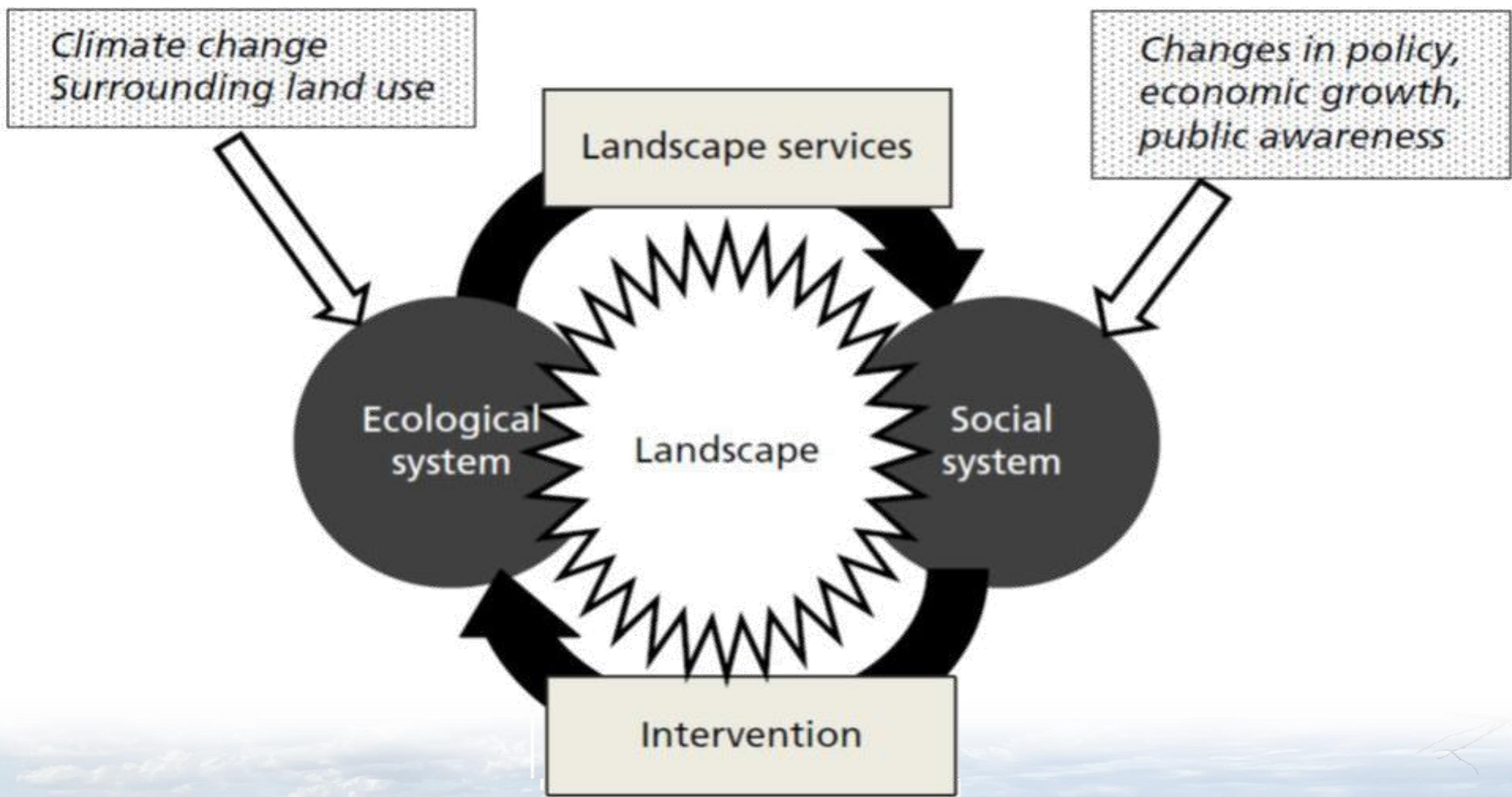
Preamble of the European Landscape Convention

- **An important role** in the cultural, ecological, environmental and social fields
- A resource for **economic activity** and whose protection, management and planning can **contribute to job creation**;
- Contributes to **local cultures** and ... is a basic component of the ... **natural and cultural heritage**, contributing to human well-being...;

Why Landscape?

Preamble of the European Landscape Convention

- An important part of the **quality of life for people everywhere**: in urban areas and in the countryside, in degraded areas as well as in areas of high quality, in areas recognised as being of outstanding beauty as well as everyday areas;
- A key element of individual and social **well-being**
- Landscape protection, management and planning entail **rights and responsibilities for everyone**



Schematic representation of landscape as a social-ecological system (Opdam, 2014)

UN and landscape policy

- Attempts to create new **international legal instruments**
- UNESCO has been the main United Nations organization, included in **heritage conservation programmes** on urban or rural landscapes
- First **global legal instrument** on “landscape” in 1962, with the UNESCO Recommendation concerning the Safeguarding of Beauty and Character of Landscapes and Sites (UNESCO, 1962)

UN and landscape policy

- **1972 World Heritage Convention** which, in its definition of cultural heritage in Article 1, included sites as “works of man or the combined works of nature and man” (UNESCO, 1972)
- **Cultural landscapes recognised in 1992**
- Parallel activity at pan-European level - Council of Europe’s adoption of the **European Landscape Convention** (Florence, 2000)

UN and landscape policy

- Attempts to establish a Global Landscape Convention
- 2011 UNESCO Recommendation on the **Historic Urban Landscape** adopted
- growing interest in a **holistic view**, global collaboration and integrated approaches in addressing non-sustainable practices
- Led to : degradation of ecosystems, controlling urbanization, and reducing over-use of limited land and natural resources

global 'call to action'
**mobilize political and financial support to restore
the world's deforested and degraded ecosystems**
**U.N. declares 2021 to 2030 'Decade on
Ecosystem Restoration'**

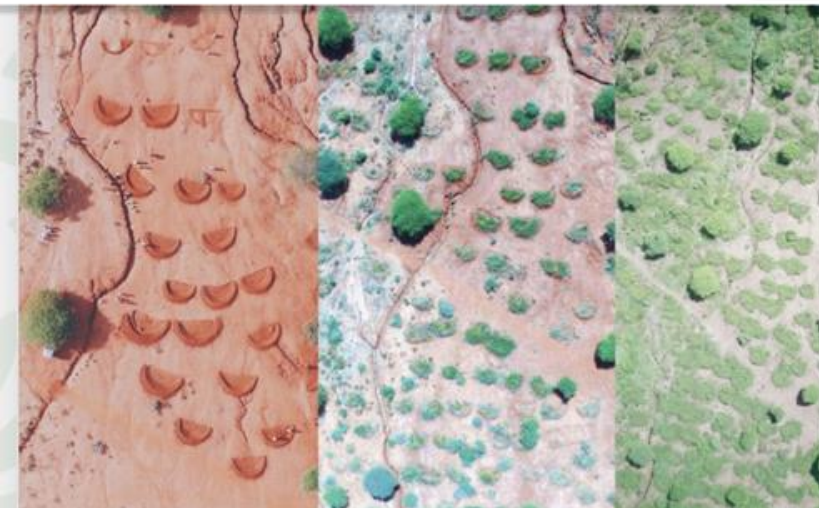
General Assembly agrees to urgently address global challenges through restoration

PREVENTING, HALTING AND REVERSING THE DEGRADATION OF ECOSYSTEMS WORLDWIDE.

The UN Decade on Ecosystem Restoration is a global rallying cry to heal our planet. What will you restore?

[LEARN TO RESTORE](#)

Image by: Florian Fusstetter / UNEP



HOW DOES GOOD RESTORATION LOOK LIKE?

10 ECOSYSTEM RESTORATION PRINCIPLES



LEARN TO RESTORE

EXPLORE THE ECOSYSTEM RESTORATION PLAYBOOK



LEARN TO LEAD

COMMUNITY ORGANIZATION TOOLKIT



United Nations

Department of Economic and Social Affairs
Sustainable Development



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Landscapes For Our Future - EU action for sustainable landscape management

European Commission (Intergovernmental organization)

[#SDGAction33561](#)



SDG GOOD PRACTICES



Landscapes for our future (2020-2026)

- **Sustainable land management** - drought and desertification
- integration of several SDGs
- pursued through all country/sub-regional activities
- countries will develop their own **monitoring frameworks**, under the overall coordination led by the global component
- development of **common monitoring tools, indicators and knowledge products**



**United
Nations**

Department of Economic and Social Affairs
Sustainable Development

Landscapes for our future (2020-2026)

- Promote **integrated landscape approaches**. Expected outputs:
- **scalable pilot initiatives** that help conciliate different land uses, foster innovation and lessons learning are field tested and deliver multiple benefits;
- **improved land governance and management systems** for land-related decisions
- **capacity for sustainable landscape management** is enhanced



**United
Nations**

Department of Economic and Social Affairs
Sustainable Development



Landscapes for our future (2020-2026)

Promote **approaches** for sustainable land management through:

- documenting **field experience, knowledge generation and sharing**
- technical advice on integrated sustainable landscape management,
- support to coordination, learning lessons, dissemination, communication, and
- contribution to international fora and land related **policy discussions**



**United
Nations**

Department of Economic and Social Affairs
Sustainable Development



Purpose:

to enhance habitat and species connectivity

to preserve ecosystems and wildlife corridors that share borders between countries

UN Secretary General to report to the General Assembly in two years' time

April 16 2021



UN Adopts Landmark Resolution "Nature Knows No Borders"

Recently, the United Nations General Assembly adopted an unprecedented resolution recognizing the critical importance of **ecological connectivity** worldwide. The resolution, sponsored by Kyrgyzstan and signed by 60 other countries, encourages all 193 country members to enhance habitat and species connectivity to preserve ecosystems and wildlife corridors that share borders between countries.



UN FAO's publication 'Landscapes for life'

- vision for SDG integration at the heart of UN FAO's strategy for sustainable food and agriculture
- boosting the efficiency of food systems
- conserving natural ecosystems
- improving livelihoods and well-being
- enhancing resilience, and
- promoting good governance



<https://www.fao.org/land-water/news-archive/news-detail/en/c/1103074/>



unesco

Our expertise [expand_more](#)

The List [expand_more](#)

Activities [expand_more](#)

Help preserve sites now!

Ex

Partnerships [expand_more](#)

World Heritage Convention

[Activities](#) [chevron_right](#) Cultural Landscapes

Combine works of nature and humankind

Relationship between people and their natural environment

121 Cultural Landscapes on World Heritage List

Cultural Landscapes



Waiting for fonts.gstatic.com



UN GeoSpatial Blueprint

- UNESCO recently joined the European Union (EU) community of scientists and practitioners to develop **innovative solutions for strengthening resilience**, via ICT platforms.
- **OPERANDUM** Geospatial Information Knowledge Platform (GeoIKP)
- **RURITAGE** rural landscape mapping tool which aims to provide a comprehensive representation of human-landscape interactions
- **I-REACT** project, implements a multi-hazard system with a focus on major climate-induced natural hazards such as floods, fires and extreme weather events.

BLUEPRINT Geospatial Landscape
of the United Nations system

OPERANDUM Geospatial Information Knowledge Platform (GeoIKP)



<https://geoikp.operandum-project.eu/>

REGISTER

LOG IN

GeoIKP

Platform for nature-based Solutions

Be part of the change!

Select your profile and start navigating



Scientist



Business & Investors



Policy-maker



Association



Citizen



News

View more...

RURITAGE: Rural landscape mapping tool

<https://www.ruritage.eu/>



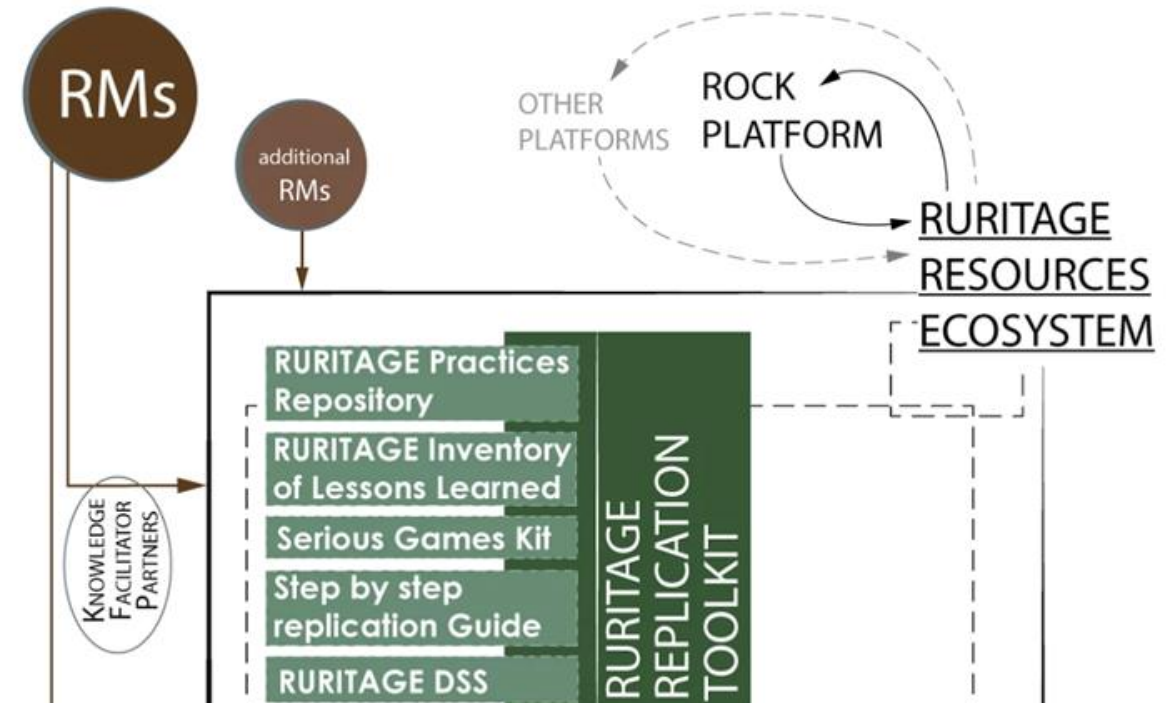
About ▾ SIAs ▾ Rural Heritage Hubs ▾ Resources ▾ Join Us ▾ News & Events ▾ Networking

RURITAGE Resource Ecosystem

RURITAGE Resources Ecosystem ensures effective knowledge sharing, mutual learning, communication, stakeholder and public consultation by integrating the innovative tools developed within RURITAGE.

Within the RURITAGE Resources Ecosystem, RURITAGE has developed an innovative and creative rural landscape mapping providing a comprehensive representation of human-landscape interactions to build an integrated and interactive **RURITAGE Atlas** of physical and relational elements, data, maps, images, models, information, based on the relation of existing data models for built heritage representation with existing cultural resources inventories and offering people a tool to interact with their territories.

Beyond the RURITAGE Atlas, RURITAGE Resources Ecosystem includes different tools for data collecting and data management, providing an open and free **Replication ToolBox** including the **RURITAGE Practices Repository**, the interoperable **RURITAGE Inventory of Lessons Learned**, the **RURITAGE Serious Game kit**, the **Step-by-Step Regeneration**



Protecting the landscape: the European Landscape Convention



- **First international treaty on Landscape**
- **Covers all aspects** when planning European landscapes
- Adopted by the **Council of Europe, 2000**
- **Obliges** the signatory member countries of EU to **incorporate the landscape dimension in their legislation** □ policies with possible direct or indirect impact on landscape

Protecting the landscape: the European Landscape Convention



- Covers all landscapes, both outstanding and ordinary or even degraded, that determine the quality of people's living environment.
- Provides a framework for integrated intergovernmental efforts towards the preservation of landscape character and its quality
- Challenges traditional ways of perceiving landscape

Protecting the landscape: the European Landscape Convention



- The Council of Europe does not represent the power of a state, but the **moral authority of Europe**
- It doesn't make or enforce laws, it **facilitates conventions**
- Conventions are **meta-laws**, which are sets above the laws of the differing states
- Implementation of the Convention is harmonised by states **within their own policies**

Protecting the landscape: the European Landscape Convention



- Landscape becomes a **mainstream political concern**
- The Landscape Convention is a dynamic legal instrument
- It defines the meaning of landscape in **relation to law and justice**
- Focuses on the way older ideas of landscape **coexist and conflict** in modern contexts

Olwig, K.R., 2007. The Practice of Landscape 'Conventions' and the Just Landscape: The Case of the European Landscape Convention. *Landscape Research*, 32(5), pp.579-594.

Protecting the landscape: the European Landscape Convention



- Landscape concerns everyone
- It lends itself to **democratic treatment**, particularly at local and regional level
- Its protection, management and planning concerns **rights and responsibilities for everyone**
- **the people whose daily practices and perceptions shape the social and physical landscape should plan and develop the landscape**

Olwig, K.R., 2007. The Practice of Landscape 'Conventions' and the Just Landscape: The Case of the European Landscape Convention. *Landscape Research*, 32(5), pp.579-594.

Protecting the landscape: the European Landscape Convention



- Practices shaped by the **Congress of Local and Regional Authorities (CLRA)**
- Aims to ensure the **participation of local and regional authorities** in the implementation
- Result: European Landscape Convention is a tension between region and state, law and convention - supported by Explanatory Reports

Olwig, K.R., 2007. The Practice of Landscape 'Conventions' and the Just Landscape: The Case of the European Landscape Convention. *Landscape Research*, 32(5), pp.579-594.

Protecting the landscape: the European Landscape Convention



- Explanatory reports established by a **Committee of Experts**
- Provide links between **scientific and technocratic expertise** and the subjective **opinions of the public**
- Explanatory reports are **not authoritative**, the Convention is open to other interpretations

Olwig, K.R., 2007. The Practice of Landscape 'Conventions' and the Just Landscape: The Case of the European Landscape Convention. *Landscape Research*, 32(5), pp.579-594.

Protecting the landscape: the European Landscape Convention



Each Party undertakes to **increase awareness** of the value of landscapes, their role and changes to them, among:

- civil society
- private organisations and
- public authorities

Olwig, K.R., 2007. The Practice of Landscape 'Conventions' and the Just Landscape: The Case of the European Landscape Convention. *Landscape Research*, 32(5), pp.579-594.

Protecting the landscape: the European Landscape Convention



The Convention calls for: “**multidisciplinary training programmes** in landscape policy, protection, management and planning, for professionals in the private and public sectors and for associations concerned”

To provide a dynamic means by which the relevant authorities could learn to tackle **issues involving landscape quality and the public’s landscape values**, and the crucial question of awareness

Olwig, K.R., 2007. The Practice of Landscape ‘Conventions’ and the Just Landscape: The Case of the European Landscape Convention. *Landscape Research*, 32(5), pp.579-594.

Protecting the landscape: the European Landscape Convention



- Campaigns for informing and educating the public, elected representatives and associations about the value of present and future landscapes
- Provides the practical framework needed to administer the landscape according to transparent legal principles

Olwig, K.R., 2007. The Practice of Landscape 'Conventions' and the Just Landscape: The Case of the European Landscape Convention. *Landscape Research*, 32(5), pp.579-594.

European Landscape Convention and information

In its Preamble the European Landscape Convention refers to the Council of Europe's Aarhus Convention of 1998 (in force 2001) to:

- access to information
- public participation in decision-making and
- access to justice in environmental matters

12 things to do that will make a reality of the ELC

Action by all, for all landscapes

Action by Governments individually

1: recognise landscape in law

2: integrate landscape in policy

3: identify landscapes

4: assess landscapes

5: set landscape objectives

6: protect

7: manage

8: plan

9: monitor change

Action by Governments collectively

12: co-operate in Europe

10: promote education and training

11: raise awareness, understanding + involvement

The essential supportive context



COUNCIL OF EUROPE LANDSCAPE CONVENTION
CONVENTION DU CONSEIL DE L'EUROPE SUR LE PAYSAGE

Actions to make the European Landscape Convention (ELC) work (Vasiljević et al., 2018)

European Landscape Convention and information

In its Preamble the European Landscape Convention refers to the Council of Europe's Aarhus Convention of 1998 (in force 2001) on:

- **access to information**
- **public participation** in decision-making and
- **access to justice** in environmental matters

European Landscape Convention Links

Key areas

- Culture, Heritage and Landscape
- Wildlife and Natural Habitats
- Major disasters



COUNCIL OF EUROPE LANDSCAPE CONVENTION
CONVENTION DU CONSEIL DE L'EUROPE SUR LE PAYSAGE

Landscape Governance

- Landscape research became relevant to different disciplines
- **Links landscape science to landscape planning, policies and governance**
- **Multiple tools and concepts** for allocating and managing land
- Integrating **stakeholder involvement** - platforms for facilitating public participation
- **Public involvement considered a key factor in developing landscape policies**

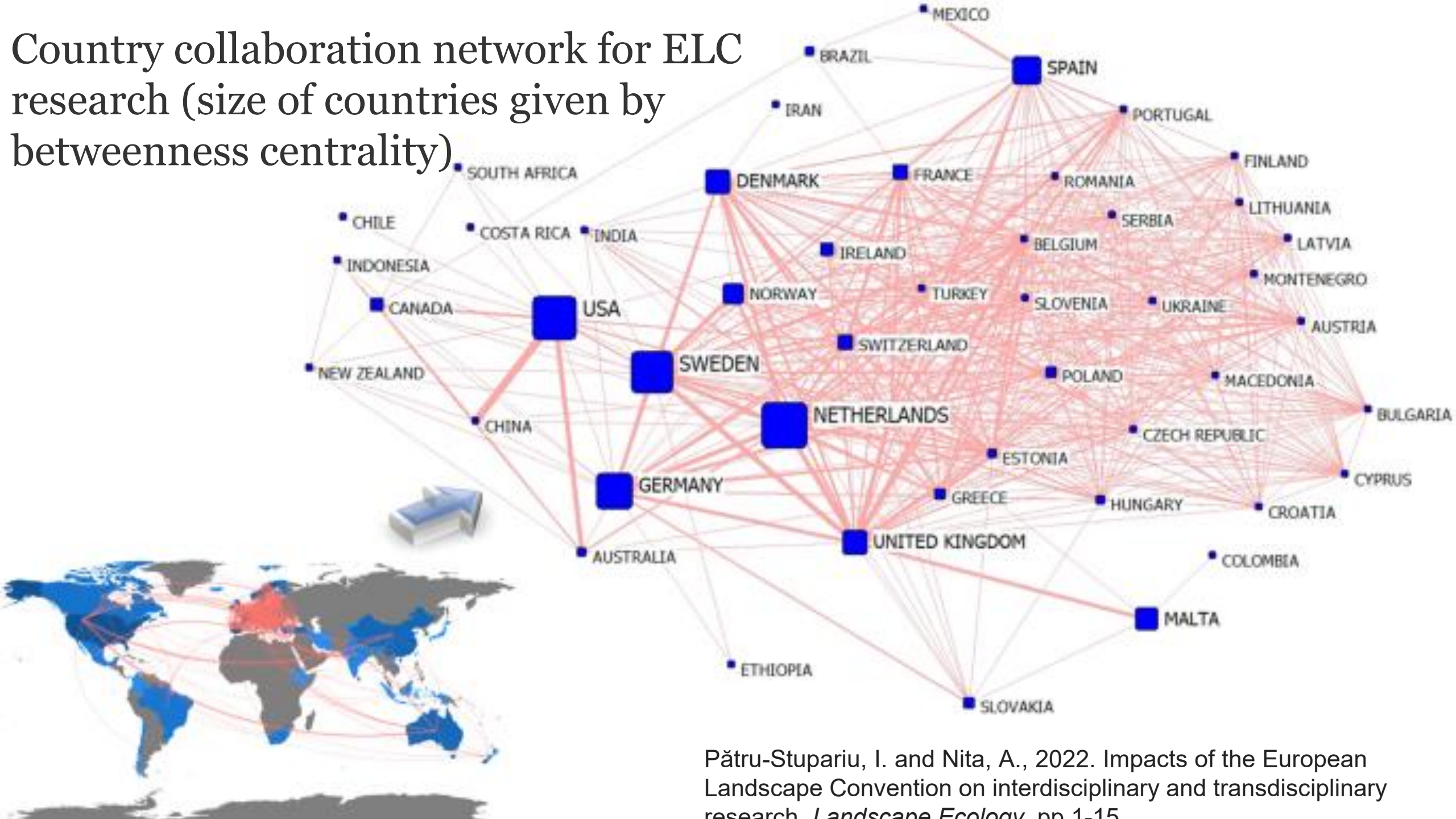
Pătru-Stupariu, I. and Nita, A., 2022. Impacts of the European Landscape Convention on interdisciplinary and transdisciplinary research. *Landscape Ecology*, pp.1-15.

Landscape Governance Actions

- Conservation, protection, management, and planning for different landscape types
- Systematically integrated into regional and local planning policies (Brunetta et al. 2018)
- Recent research related to: *landscape values important for long-term maintenance, landscape ecology metrics, indices for climate change adaptation* , and *ways to adapt urban landscapes to sustainable blue green infrastructures*

Pătru-Stupariu, I. and Nita, A., 2022. Impacts of the European Landscape Convention on interdisciplinary and transdisciplinary research. *Landscape Ecology*, pp.1-15.

Country collaboration network for ELC research (size of countries given by betweenness centrality)



Pătru-Stupariu, I. and Nita, A., 2022. Impacts of the European Landscape Convention on interdisciplinary and transdisciplinary research. *Landscape Ecology*, pp 1-15

Public Participation

- Public participation implies involving individuals and groups who are outside the formal decision-making process of the government and local authorities
- Aims to complement official decision making
- Have to get the public involved at an early stage
- Defining landscape-quality objectives - public consultation

Jones, M., 2019. The European Landscape Convention and the question of public participation. In *Justice, Power and the Political Landscape* (pp. 231-251). Routledge.

Landscape Quality Objectives

LQOs involve:

Descriptions of nature, land use, buildings

The landscape's visually distinctive features

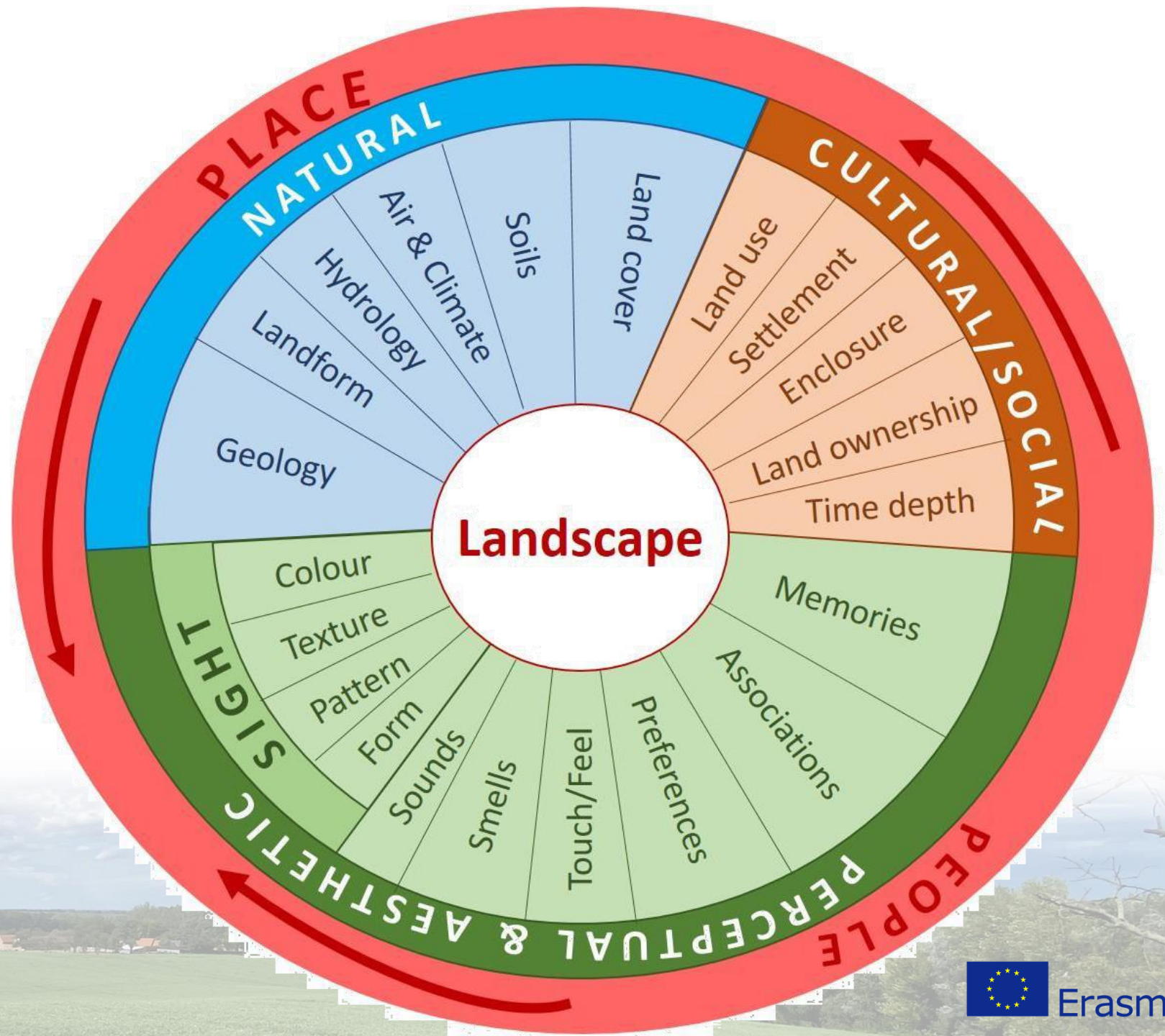
The role of art and literature, as well as

People's historical and cultural associations

These types of information need to be combined with investigations of people's preferences and values

Jones, M., 2019. The European Landscape Convention and the question of public participation. In *Justice, Power and the Political Landscape* (pp. 231-251). Routledge.

Attributes of landscape



(source: Markova, 2019)

Public Participation

Public participation involves:

- **Democratisation of the landscape**, decisions not imposed
- **Legitimacy for the final decisions**, people listened to
- **Information exchange** - incorporation of the public's knowledge, values, viewpoints and behaviour
- **Tackling conflicts** through dialogue
- **Heterogeneity and social justice** in human-environment interaction

Jones, M., 2019. The European Landscape Convention and the question of public participation. In *Justice, Power and the Political Landscape* (pp. 231-251). Routledge.

The image features a central, semi-transparent face of a person, likely representing a digital citizen. The face is overlaid with a complex, glowing blue circuit board pattern. The background is a dark blue space filled with numerous small, bright white and blue particles, some of which are larger and more prominent, creating a sense of depth and digital activity. The overall aesthetic is futuristic and technological.

Digital Space and the Digital Citizen

Landscape Quality Objectives

LQOs involve:

Descriptions of nature, land use, buildings

The landscape's visually distinctive features

The role of art and literature, as well as

People's historical and cultural associations

These types of information need to be combined with investigations of people's preferences and values

Jones, M., 2019. The European Landscape Convention and the question of public participation. In *Justice, Power and the Political Landscape* (pp. 231-251). Routledge.

Conclusions

Landscape has the potential to be a unifying framework:

- For future work of the UN
- In addressing SDGs
- With UNGGIM
- Within other international agencies and
- For the Council of Europe

Jones, M., 2019. The European Landscape Convention and the question of public participation. In *Justice, Power and the Political Landscape* (pp. 231-251). Routledge.

Conclusions

- United Nations Urban Agenda (2015) calls for a ‘right to the city’
- Every city should be supportive of all residents
- Future planning and policies should be the result of democratic, participatory processes
- **Can relate to landscapes in all environments**

Jones, M., 2019. The European Landscape Convention and the question of public participation. In *Justice, Power and the Political Landscape* (pp. 231-251). Routledge.

GEOLAND Project Aims

- establish a **learning path for the Higher Education students and their professors** so that they are able to apply their geospatial analysis knowledge in decision-making for landscape management, planning and protection of **NATURA 2000 sites** across Europe
- focus in **promoting digital skills** like PPGIS (public participation GIS), **low-cost geoinformatic tools** and the digital readiness of higher education students in the Covid-19 pandemic era.



FORTH (coordinator)

The Foundation for Research and Technology - Hellas (FORTH) was founded in 1983. It is one of the largest research centers in Greece with well-organized facilities, highly qualified personnel and a reputation as a top-level research institution worldwide.



Atlantis Engineering

A Greek ICT SME. Their main activities are: support of daily production tasks in factories with simple and advanced manufacturing systems; organization and computerization of maintenance departments; customization of maintenance consulting; training on maintenance, asset management as well as ICT solutions.



DLEARN

The European Digital Learning Network (DLEARN), a network made of 27 different EU organizations active in the field of education and digital learning at various levels, aims to embrace the challenges brought by the digital revolution in terms of digital skills mismatch, toward an inclusive digital society.



University of Zaragoza

University of Zaragoza (UNIZAR) is a public higher education and research institution in the service of society, and combining a tradition of over 500 years of history with constantly updated teaching approach.



EUROGEO

EUROGEO is a European scientific society, which networks geographers and those from related subjects (environment, planning, surveying, geotechnology) from all walks of life. EUROGEO is an international not-for-profit organisation, based in Belgium



Ghent University

Ghent University was established in 1817 and has 11 faculties, which offer high quality and research-based educational programmes in almost each scientific discipline. Currently there are about 9000 staff members and over 44000 students, more than 10% is international.



RCCI

Ruse Chamber of Commerce and Industry (RCCI) is located in Ruse, Bulgaria. It dates back to the 1890s and is the first of its kind for Bulgaria. Today, RCCI is an NGO for the public benefit, which provides a wide range of modern business services to both member and non-member companies.

PARTNERS



GEOLAND main goals

Develop:

- an **Educational Handbook for monitoring European Landscape**,
- a **Web based GIS platform** where numerous geospatial data may be uploaded and analysed and students' opinion about landscape will be obtained through questionnaires and crowdsourcing
- **Policy Outreach resources** - implementation of landscape planning

Geoland outcomes

- **O1: Educational Handbook for monitoring European Landscape** presenting a homogeneous methodology for educating Higher Education students in studying European Landscape with means of Geoinformatics and citizen science methodology.
- **O2: Training course - Web-based GIS platform** used by Higher Education students and Professors in order to apply Landscape Character Assessment (LCA) for assessing Landscape quality in Natura 2000 zones.
- **O3: Policy outreach** □ provide a unique opportunity to Higher Education students to study how European Landscape Convention (ELC) is implemented and adopted in different EU countries.
- **O4: Online gallery** of students work
- **O5: Develop a Digital Readiness Tool, DERT**, for the assessment of the digital readiness of the Higher Education students and courses.

Educational handbook published

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Erasmus+ Programme
of the European Union



**Digital Educational Geoinformatic Methodologies for Monitoring
Landscape – GEOLAND**

Intellectual Output 1



**EDUCATIONAL HANDBOOK FOR MONITORING
EUROPEAN LANDSCAPE**

geo land



- <https://www.geolandproject.eu>
- <https://www.facebook.com/GEOLANDthePROJECT>



UN-GGIM

United Nations Committee of Experts on
Global Geospatial Information Management