BOOK OF ABSTRACTS

This Book of Abstracts provides a comprehensive overview of the session content and is structured into three main sections:

I. Session Description – an introduction to each session, including its objectives and expected outputs
II. Session Program – a detailed schedule for each session, including speakers and timing
III. List of Abstracts – a complete compilation of all accepted abstracts

I. SESSION DESCRIPTION

ID: X7

Participatory mapping and citizen science pathways for advancing ecosystem services and biodiversity stewardship

Hosts:

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Abstract:

Inclusive, participatory, and data-driven approaches are increasingly central to understanding and sustaining the relationships between people and nature. As ecosystem service research and biodiversity policy evolve—driven by frameworks such as IPBES, the EU Biodiversity Strategy for 2030, and the Nature Restoration Law—there is growing recognition that communities and researchers must collaborate to generate actionable, place-based knowledge that supports sustainability transformations.

This session brings together two interlinked strands of participatory research that have matured significantly over the past decade: participatory ecosystem service mapping and citizen science approaches to biodiversity and ecosystem services. Together, these approaches provide pathways for integrating local knowledge, values, and practices into the broader science–policy interface. They also raise important questions about inclusivity, data quality, power relations, and how participatory approaches can be scaled up without losing their grounding in local realities.

Goals and objectives of the session:

Block 1: Participatory Mapping of Ecosystem Services – Methods, Advances, and Future Directions

Over the past 20 years, participatory mapping has become a cornerstone of sociocultural ecosystem service assessment, contributing to a deeper understanding of human–nature relations. This block will take stock of methodological innovations, conceptual advances, and empirical insights since the last major review a decade ago. It invites contributions that:

- Present novel methods, datasets, or technologies advancing participatory ecosystem service mapping;
- Explore how participatory mapping aligns with new frameworks (e.g. nature's contributions to people, diverse values of nature, IPBES life frames);
- Examine how mapping can inform policy, planning, and practice for sustainability transitions.

The block aims to refine participatory mapping as a robust, recognized approach for understanding and guiding transformations toward people- and nature-positive futures.

Block 2: Citizen Science for Biodiversity and Ecosystem Services – knowledge, governance and justice implications

Citizen science offers powerful tools to bridge the gap between local action, policy and planning schemes and global frameworks by co-generating biodiversity and ecosystem services data. This block focuses on participatory monitoring, co-designed technologies, and community-based initiatives that link scientific, local, and policy knowledge. By foregrounding both opportunities and limitations, this block will highlight how citizen science can enhance data collection, empower communities, and promote equitable participation in decision-making and planning processes.

We welcome contributions that:

- Present projects and initiatives showcasing the development/use of biodiversity apps, open-source mapping, low-cost and low-tech sensors, structured monitoring schemes;
- illustrate bottom-up and grassroots initiatives related with citizen science approaches for biodiversity and ecosystem services
- Critically assess inclusivity and justice implications of data gathered and knowledge generated in the different realms of justice (distributional, recognitional and procedural, for instance)
- Explore citizen science approaches in participatory governance, policy and planning interfaces for biodiversity and ecosystem services at various scale

Case studies, research projects, formal and informal practices taking place in both urban and non-urban (e.g. rural, inner, coastal and mountainous areas) are welcome.

Planned output / Deliverables:

- A short report identifying participatory and citizen science initiatives and tools for monitoring biodiversity and broader ecosystem services in rural and mountain areas
- A joint synthesis paper may result from the session provided that sufficient new ideas and enthusiastic participants find together.

II. SESSION PROGRAM

Room: B2
Date of session: Tuesday, 19 May 2026
Time of session: 11:00 – 15:30

Timetable speakers:

Time	First name	Surname	Organization	Title of presentation
11:00 – 11:15	Oleksandr	Karasov	GIST Lab, Aalto University	Democratising Outdoor Experiences Mapping in Ukraine via Telegram
11:15 – 11:30	Giulia	Benati	Environmental Science and Technology Institute (ICTA-UAB), Universitat Autònoma de Barcelona	Spatial Recognition Justice: Integrating Participatory Mapping and Discrete Choice Experiment to Elicit Ecosystem Service Values

11:30 – 11:45	Frank B.	Chimaimba	University of Turku, Department of Geography and Geology	Diverse Values and Disvalues of Urban Nature Among Residents of Planned and Unplanned Areas of Lilongwe, Malawi: A Participatory Mapping Approach
11:45 – 12:00	Gaelle	Ndayizeye	Social-Ecological Interactions in Agricultural Systems, University of Kassel and University of Göttingen	Participatory mapping of local people's values in restoration landscapes in Western Rwanda
12:00 – 12:15	Netra	Bhandari	Philipps-Universität Marburg, Department of Geography, Environmental Informatics, Marburg, Germany	Mapping demand for Nature's Contributions to People and Governance Rules: A participatory approach in the Kilimanjaro Social-Ecological System
12:15 – 12:30	Marion	Jay	Social-Ecological Interactions in Agricultural Systems, University of Kassel and University of Göttingen	Living in, Living as, Living for, and Living with nature: operationalizing the Life Framework of nature values in protected areas through participatory mapping
			12:30 – 14:00 lunch	
14:00 – 14:10	Anna	Hollerer	Carinthia University of Applied Sciences	Think outside the Box! - The BioBox approach to biodiversity in Urban Areas
14:10 – 14:20	Stefano	Targetti	Alma Mater Studiorum, University of Bologna	Use, Interest, and Value of citizen science-generated data
14:20 – 14:30	Balint	Czucz	Norwegian Institute for Nature Research (NINA)	A scientist - journalist collaboration to investigate the process of land take in Europe
14:30 – 14:40	Julieth Xiomara	Suarez Sanabria	Fundación Universitaria Juan De Castellanos	Participatory community monitoring of water quality In the Oak Guantiva – La Rusia Corridor, Colombia
14:40 – 14:50	Francesco	Vettore	Alma Mater Studiorum, University of Bologna	Walking the data: a citizen-science walk as a boundary space for shared learning on biodiversity and ecosystem services across RURACTIVE dynamos
14:50 – 15:00	Alberto	Anticoli	Freie Universität Berlin	Integrating participatory approaches in the analysis of rural land conflicts in the Alto Paraná Atlantic Forest
15:00 – 15:10	Merete	Kemppainen	Aalto University	Bridging Metrics and Meaning: Youth Perspectives on Wellbeing in Urban Nature
15:10 – 15:20	Frandel Louis S.	Dagoc	MSU Iligan Institute of Technology	Enhancing Citizen Science through Participatory Rural Appraisal towards Watershed Planning and Management: The Case of Titunod River, Lanao del Norte, Philippines

III. LIST OF ABSTRACTS

The first author is the presenting author unless indicated otherwise

1. Democratising Outdoor Experiences Mapping in Ukraine via Telegram

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War complicates the monitoring of people-nature interactions, while they often serve as a source of societal resilience. In many Ukrainian regions, the full-scale Russian invasion has fundamentally changed how citizens interact with outdoor spaces, yet traditional data collection methods are often unsafe or logistically impossible. This study introduces a participatory mapping framework using a Telegram bot to capture how outdoor experiences have evolved in the city of Kremenchuk, in the context of the local planning project to revitalise the left bank of the Dnipro River. The Telegram bot facilitates a secure, anonymous dialogue with residents, asking them to rate the time they spend outdoors, describe their activities, and explicitly report how their perceptions of these places have changed since the invasion. The system includes strict safety protocols that discourage participation in occupied territories or near the front lines, and submitted data is stored in a secure environment in Finland.
Initial results from spring 2025 indicate that, despite the context of war, most respondents continue to report enjoyable and very enjoyable experiences, which are heavily concentrated in specific green and blue spaces used for relaxation and social connection. These findings suggest that democratised, mobile-friendly tools can effectively bridge the gap between citizens and planners in crisis scenarios. By utilising existing digital infrastructure, such as Telegram, and extending it to other messengers that provide programming interfaces with geospatial and survey-like functionalities (e.g., WhatsApp), mobile data collection on how urban green spaces contribute to human well-being offers a scalable alternative to traditional participatory mapping workshops and can be applied in various conflict zones.

***Keywords*:** participatory mapping, crowdsourcing, messenger, cultural ecosystem services

2. Spatial Recognition Justice: Integrating Participatory Mapping and Discrete Choice Experiment to Elicit Ecosystem Service Values

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Nature-based solutions (NBS) have become a central component of climate adaptation and sustainability agendas in many cities. Yet, NBS implementation increasingly faces opposition from residents. As NBS systematically lack considering diverse needs, values, and priorities of different population segments, they fall short from a recognition justice perspective. This study provides a systematic assessment of residents' preferences for six ecosystem services associated with NBS based on a demographically and spatially representative sample of 1700 respondents in the Barcelona Metropolitan Area, Spain. We employ a mixed-methodological approach that integrates a Discrete Choice Experiment with a Public Participation GIS approach to estimate ecosystem service preferences and map their spatial distribution across the study area. Results indicate strong public support for ecosystem services related to heat mitigation, flood prevention, and water storage. However, preferences display clear geographic variation and significant differences across income and education groups. A critical finding is that both the least and the most affluent residents, as well as those with the lowest level of education, tend to be less supportive of expanding ecosystem service provision through NBS. These findings highlight the importance of systematically addressing the needs and perspectives of these groups to strengthen recognition justice in NBS planning. Doing so is essential not only for a fairer distribution of nature's benefits, but also for ensuring long-term public acceptance of NBS transformation strategies.

***Keywords*:** Climate adaptation, Nature-based solutions, Ecosystem Services, Recognition Justice, PPGIS, Discrete Choice Experiment

3. Diverse Values and Disvalues of Urban Nature Among Residents of Planned and Unplanned Areas of Lilongwe, Malawi: A Participatory Mapping Approach

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Urban residents hold diverse, context-dependent values and disvalues of nature that shape human–nature relationships, and can inform more inclusive urban environmental planning and conservation. Yet, research on these perspectives remains limited in the Global South, despite the region experiencing the world's fastest urban growth, which places increasing pressure on, and often leads to the loss and degradation of, urban nature. Existing studies also focus predominantly on positive values, overlooking disvalues, thus risking positivity bias, and often treat cities as homogeneous, even though socio-spatial differences—such as those between planned and unplanned settlements—strongly influence how residents interact with urban nature. To address these gaps, we applied the IPBES value typology, life frames, and the disvalue framework of Lliso et al. (2022) to examine nature-related values and disvalues in Lilongwe, Malawi. Using a face-to-face participatory mapping survey, we collected spatial and qualitative data from 283 residents across planned and unplanned settlements. Respondents mapped far more important nature places than harmful ones, yet their explanations revealed cultural, experiential, and behavioral filters that help explain the under-identification of disvalues. Important places differed significantly by settlement type: residents of planned areas highlighted formal green spaces, while those in unplanned areas emphasized informal and readily accessible nature sites. Relational values—particularly those aligned with "living with nature"—were dominant in both settlement types, contrasting with the instrumental-value dominance widely reported in the literature. Disvalues were primarily instrumental (e.g., safety concerns), with fewer relational and intrinsic disvalues; only instrumental disvalues varied across settlement types. Overall, the findings underscore the importance of integrating socio-spatial inequality, everyday engagement with nature, and both values and disvalues into urban nature planning and conservation to support more equitable and context-specific decision-making about urban nature in rapidly growing African cities.

***Keywords*:** Sub-Saharan Africa, Nature Connectedness, PPGIS, Values, Disvalues

4. Participatory mapping of local people's values in restoration landscapes in Western Rwanda

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Introduction: Landscape restoration is critical to addressing deforestation, land degradation, and biodiversity loss while promoting human well-being. However, its success largely depends on local knowledge and values, which are often overlooked, reducing the effectiveness and long-term sustainability of restoration.
Objectives: This study used a participatory approach to map landscape values and perceptions of well-being in Western Rwanda. The goal was to identify priority restoration areas, uncover potential conflicts, and explore the socio-demographic factors shaping landscape value perceptions within the context of restoration.
Methods: A Public Participation Geographic Information System (PPGIS) survey was used to capture the landscape values and restoration practices' impact on local communities. Our analysis focused on understanding spatial and statistical variations in perceptions.
Results: In total, 3,047 locations were identified, with regulating values, crop production, and benefits from trees most frequently mapped. Mapped values varied from site to site, reflecting local land use and regulatory values, clustered around forests in Rutsiro, whereas in Nyabihu they were mainly mapped on terraced farmlands.

Socio-demographic factors influenced value perceptions, with landless respondents prioritizing crop production while wealthier landowners emphasized water supply. While restoration was generally viewed as beneficial, concerns were raised about the use of non-native species in restoration. These species were seen as potential threats, as they could reduce access to key resources, lower crop productivity, and disrupt cultural and traditional uses. Additionally, the same tree species perceived as harmful to livelihoods were also recognized for their negative impacts on biodiversity.
Conclusions: Overall, the findings underscore the need to balance ecological goals with local socio-economic realities and demonstrate the value of PPGIS in participatory restoration planning.

Keywords: landscape values, participatory mapping, PPGIS, Rwanda, social-ecological restoration, sustainable land management

5. Mapping demand for Nature's Contributions to People and Governance Rules: A participatory approach in the Kilimanjaro Social-Ecological System

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Demand–supply (mis)matches in Nature's Contributions to People (NCP) are shaped not only by biophysical conditions but also by social and knowledge-related access barriers, which differ between stakeholder groups and can translate into unequal human well-being. In the Kilimanjaro social-ecological system, we plan to combine Public Participation GIS (PPGIS) and workshop approaches to (i) spatially assess 25 context-specific NCP demand and perceived access filters, and (ii) make land and water governance rules and their local compliance spatially explicit. We will conduct PPGIS workshops in 14 villages and with nature conservationists and tour operators in Moshi town, where participants will mark locations of important NCP (material, non-material, and regulating) on maps and identify physical, social, and knowledge barriers that constrain access. These workshops and mapping will be supported by an analog map (1:50,000) and Survey123 app that will record georeferenced responses on NCP demand, and self-reported compliance with formal and informal rules (e.g. forest use restrictions, water abstraction limits, river-buffer regulations, and crop-specific input rules). In parallel, we will run an online participatory mapping survey for tourists, who will locate visited and desired places, indicate valued experiences, and report perceived access constraints to NCP along the Kilimanjaro tourism circuit. All spatial data will be digitized and integrated with existing landscape-scale NCP supply maps, land use, and population datasets. We will further compile a spatially explicit governance layer distinguishing rules-in-form (derived from policies, regulations, and bylaws) and rules-in-use (elicited from village-level surveys and interviews), including administrative borders, biophysical rules (e.g. 60 m buffer along open watercourses), land-use–specific rules, and socio-cultural institutions such as Kihamba. Overlay analyses will reveal where NCP demand–supply (mis)matches coincide with weak enforcement, low perceived legitimacy, or high compliance. We anticipate that our results will produce spatially explicit information on NCP demand, access filters, and governance, thereby supporting more just and effective landscape planning and Nature Futures in mountain regions.
Keywords: PPGIS, Nature's Contributions to People, governance, Kilimanjaro, Survey123

6. Living in, Living as, Living for, and Living with nature: operationalizing the Life Framework of nature values in protected areas through participatory mapping

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The Life Framework of Values provides a set of archetypes of human-nature relationships (living in, living as, living from, and living with nature). Despite its potential for informing environmental decision-making, empirical research on life frames remains very limited. In this study, we apply the Life Framework in combination with spatial analyses to explore links between people's relationship with nature, and the

values they associate with places in and around protected areas. Using public participation GIS (PPGIS) survey data from two regions in France and Germany, we link the life frame approach to spatial assessments of landscape values. We identified three life frames that broadly show a high degree of correspondence with the four conceptual life frames defined in previous works, but also point at permeable and overlapping boundaries: living with and in, living from, and living as nature. The spatial analysis revealed a small-scale mosaic of overlaps between life frames. Our results support a better understanding and characterization of protected areas that are multifunctional in terms not only of their multiple land uses, but also their multiple meanings to people. We discuss implications for conservation planning, exploring new avenues for plural value assessment and operationalization of the life frames.

Keywords: Effective and equitable land management, Human-nature relationship, Landscape values, Life framework, PPGIS, Protected areas

7. Think outside the Box! - The BioBox approach to biodiversity in Urban Areas

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While comprehending biodiversity is an ongoing process, sharing what we already understand is essential. To alter the negative trajectory that biodiversity is on, the action of each individual is needed– regardless of their background and social status. One way to show people which actions will create positive change is by making knowledge accessible and practical. This means creating guidelines that serve as a roadmap to everyone. The Interreg Italia-Austria Project: "BioBox – The Crossborder Biodiversity Toolbox" functions as such a roadmap. By addressing the decline of biodiversity in urban areas, BioBox offers measures that support birds, bats and pollinators which are easy to implement, affordable, and scalable. By using a mixed-media approach, these measures are presented as a booklet, an online platform, and a workshop series. To allow individuals from all backgrounds to participate, the booklet is available in English, Italian, and German. Additionally, the online platform will host the content of the booklet in easy language, sign language, and video format with subtitles. Through the online platform, interested individuals can reach out to the project team directly. The workshop series can be attended by students and CEO's alike, as the material and content are tailored to various stakeholder groups and engages them through an interactive, perspective-shifting format. With an introduction by our team, the workshop material can be used by multiplicators and educators to develop an independent workshop series. Through the cooperation with socio-economic projects, BioBox aims to address inclusion on several levels. To understand the biodiversity-related goals proposed by the project, a variety of the measures are being implemented and monitored on pilot sites in the City of Villach, Udine, as well as on the campuses of both the Carinthia University of Applied Sciences and the University of Udine. By opening up conservation efforts and working together with people from all walks of life, we hope to inspire and implement long lasting change in our project areas.

Keywords: biodiversity, civil engagement, monitoring, workshops

8. Use, Interest, and Value of citizen science-generated data

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Healthy soils provide essential ecosystem services and sustain life, yet an estimated 60–70% of European soils are degraded due to unsustainable management practices. The EU-funded ECHO project aims to strengthen the use of citizen-generated data (CGD) in decision-making across nine European case-study regions. This contribution presents the Italian case study, "Soil mapping and monitoring for policy". Experts from policy and institutional bodies involved in soil monitoring were identified as potential end-users of CGD. An online survey showed that they prioritise soil health data that are accessible, accurate, and coherent with other sources over time. Based on these criteria, we designed an in-person workshop in which participants evaluated the relevance of six soil health indicators generated by citizen scientists: presence of pollutants, soil organic carbon (SOC) stock, soil structure and texture, soil biodiversity, soil

pH, and vegetation cover and landscape heterogeneity. A follow-up webinar was held to discuss and validate the workshop results and inform the development of a value-of-information methodology for subsequent project phases.
End-users identified soil biodiversity as the most relevant indicator for their decision-making, followed by presence of pollutants. Soil pH and soil structure and texture were also valued, especially due to their high accessibility, while SOC stock was ranked lower. Despite recognising the potential of CGD, most experts reported they would not currently trust such data for official soil mapping and monitoring. Instead, they viewed CGD primarily as a communication tool between scientists and citizens, contributing to increased public awareness and soil literacy.
Experts acknowledged that indicators such as biodiversity (e.g. earthworm presence) could serve as complementary information. However, they stressed that metadata availability and clear sampling protocols are essential to build confidence. They also noted that CGD indicators might support policy decisions, but soils are highly heterogeneous and thus high-granularity information is required.

Keywords: Citizen-generated data; Soil health indicators; Participatory methods; Biodiversity; Decision making

9. A scientist - journalist collaboration to investigate the process of land take in Europe

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The effective monitoring of 'land take'—the permanent conversion of nature and cropland to artificial surfaces—is vital for European sustainability targets, yet official low-resolution data has consistently led to underestimation, limiting civil society's ability to hold governments accountable. We present a high-resolution land take assessment for the EEA-39 region (2018–2023) with a novel approach to human-validated area estimation, crucial for accurate public reporting. Our methodology combines high-resolution geo-AI data products (Dynamic World) with citizen science-based reference data collection powered by investigative journalism, and design-based unbiased statistical estimators. To ensure the quality and efficiency of the reference data collection we developed a dedicated "collector app", which was used by forty non-technical interpreters (investigative journalists affiliated with the Arena for Journalism in Europe), who manually labelled 9,893 stratified sampling locations using a broad range of very high-resolution aerial ortophotos and 10 m resolution satellite imagery. This hybrid approach revealed a gross land take of 1543 ± 57 km^2 yr^{-1}, which is one and a half times larger than previous official estimates by the European Environment Agency (EEA). The data highlights a critical loss of natural land (907 km^2 yr^{-1}) and cropland (590 km^2 yr^{-1}) and identifies several key land use drivers for this process. This project demonstrates how a strong collaboration between technical experts and civil society around prominent human-observable environmental challenges can reinforce monitoring and evidence collection necessary for effective governance and mitigation policies. Furthermore, the in-depth understanding about the diverse land-take processes the journalists gained through their participation has significantly contributed to their coordinated media campaigns, enhancing the impact of the results and raising awareness about the risk of unintended cumulative impacts from land take in Europe.

Keywords: land use efficiency, geo-AI, pixel counting, ground-truth, unbiased area estimator

10. Community Monitoring Of Water Quality In The Oak Guantiva – La Rusia Corridor, Colombia

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In the context of the global climate crisis, Colombia stands out as a critical setting for the management of ecosystem services due to its extensive biodiversity. However, rural areas face significant gaps in basic sanitation that threaten public health, largely as a result of limited infrastructure and technology in rural community water supply systems. This study develops a citizen science model in the Guantiva–La Rusia Biological Corridor, a strategic high-mountain ecosystem located on the western slope of the Eastern

Cordillera of the Colombian Andes. The objective was to implement a Participatory Community Monitoring (PCM) system in four strategic micro-watersheds through a comprehensive approach that integrates academia, the governmental sector, and environmental organizations.

The methodology was based on a technical protocol comprising four operational phases: diagnosis of the problem, technical training for local campesinos, systematic data collection, and analytical interpretation to support decision-making. The rigor of the physicochemical analysis was assessed against Resolution 2115 of 2007, the Colombian legal framework that establishes water quality standards for human consumption. It is essential to note that this regulation is designed for robust treatment plants aqueduct systems, imposing a highly demanding technical standard on rural communities.

The results reveal a critical quality gap: two of the micro-watersheds report water unfit for consumption; the remaining ones, although showing favorable parameters, do not fully comply with the resolution and are therefore technically classified as non-potable due to the absence of adequate treatment technologies. This research positions PCM as a driver of water governance and territorial resilience. The exercise demonstrates that, despite infrastructure limitations, community empowerment is fundamental to local development. This model underscores the need for public policies that recognize rural technological asymmetries, transforming institutional management toward global sustainability.

Keywords: Participatory Community Monitoring; Water Quality; Citizen Science; Rural Water Supply; Water Governance

11. Enhancing Citizen Science through Participatory Rural Appraisal towards Watershed Planning and Management: The Case of Titunod River, Lanao del Norte, Philippines

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The Participatory Rural Appraisal (PRA) conducted in Titunod Sub-Watershed represents an integrative effort to address pressing environmental and socio-economic challenges within watershed landscape. PRA involves community members in the process of data collection and analysis and has been widely employed in rural development, agriculture and natural resource management. The primary objective of this study was to gain insights into various community aspects such as social, economic, cultural, and environmental factors and assess their understanding of their watershed. This study utilized PRA tools – resource and hazard mapping, timeline/historical mapping, problem-tree analysis, stakeholder and gender analysis, and social networking analysis. There were 73 participants from the three (3) barangays participated in the study. Key findings revealed significant resource dependencies related to agriculture, forestry, and fisheries forming the backbone of local livelihoods. However, these communities face persistent challenges such as flooding, landslides, inadequate infrastructure, and socio-economic disparities. Historical events and hazard mapping underscored recurring vulnerabilities, particularly the impacts of natural disasters like typhoons and flooding, compounded by resource depletion and insufficient disaster risk reduction measures. Problem-tree analysis highlighted systemic issues, including financial instability, lack of educational resources, and inadequate access to clean water and sanitation facilities. These root causes contribute to a cascade of effects ranging from poor academic performance and health risks to heightened community anxiety and reduced agricultural productivity. Stakeholder analysis identified critical gaps in coordination among local government units, non-governmental organizations, and community groups, emphasizing the need for inclusive and collaborative governance structures. Gender analysis uncovered disparities in labor distribution and decision-making power, advocating for equitable resource access and representation. Social networking further demonstrated the significance of strengthening ties between local stakeholders and broader institutional actors to address complex, multi-dimensional challenges effectively. Insights from these tools informed actionable recommendations, including enhanced disaster preparedness training, transparent allocation of government aid, and sustainable resource management practices tailored to the unique needs of the watershed.

Keywords: participatory appraisal, citizen science, community development, Titunod river, watershed planning and management

12. Walking the data: a citizen-science walk as a boundary space for shared learning on biodiversity and ecosystem services across RURACTIVE dynamos

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In the context of rural transition and development, awareness of the role of biodiversity and ecosystem services (ES) is critical. Sustainable transition is not possible without protecting and enhancing biodiversity, particularly in rural, mountain, coastal, and sparsely populated hilly areas. Engaging inhabitants, residents, tourists and 'passengers' in recognising the ecological diversity of these territories and the services they provide is therefore important for rural sustainability and for the resilience of urban areas that depend on these ecosystems.
In this context, RURACTIVE places biodiversity – alongside climate change, and social justice and inclusion – at the core of the rural transition it promotes. These themes are embedded across multiple drivers of rural development, extending beyond agriculture to include tourism, cultural innovation, and other sectors.
The contribution presents a guided biodiversity walk organised during a RURACTIVE project meeting involving partners from 12 Dynamos (pilot sites). In preparation, the local Dynamo draws on situated ecological and socio-cultural knowledge to identify a small set of locally relevant monitoring priorities (e.g. key species, habitats, or features associated with ES). These priorities guide the route and orient participants' observation and discussion, while data are recorded using simple mobile applications inspired by citizen-science practices.
Attention is paid to the diversity of perspectives brought by visiting participants from different disciplinary, cultural, and biogeographical backgrounds. The walk becomes a boundary space for dialogue and reflexive comparison between locally defined priorities and the elements external participants notice, value, or choose to record. This contrast helps explore how background knowledge and regional experience influence what is recognised as biodiversity and how links to ES are perceived across contexts.
Rather than aiming for comprehensive datasets, the initiative uses citizen science observation to foster mutual learning, perspective-taking, and cross-country reflection in a project involving multiple pilot sites.

***Keywords*:** Citizen science; biodiversity monitoring; ecosystem services; local knowledge; boundary space

13. Integrating participatory approaches in the analysis of rural land conflicts in the Alto Paraná Atlantic Forest

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Citizen science (CS) has played a fundamental role in recent advancements in human-nature interactions fields, bridging the gap between the public and scientific communities and increasing participation in research. Participatory methods integrate diverse scientific and local knowledges, improving problem framing and capturing relational socio-ecological dimensions of ecosystem services. Yet the potential of participatory methods for studying land conflicts (LCs) and associated impacts on ecosystem services remains partially unexplored, creating theoretical and practical gaps. This research investigates, through participative workshops, how civil society can contribute significantly to understanding and analyzing the complex dynamics that characterize the LCs in which it is embedded. We targeted two case study communities with workshops in the Alto Paraná Atlantic Forest, a highly biocultural diverse hotspot under high threat of deforestation and land conversion: 1) Misiones, Argentina, and 2) Paraná, Brazil. First, participants used focus group to map land conflicts, identify actors, and assess impacts, then selected the most significant conflict for deeper analysis. Second, participants conducted temporal narrative reconstruction using paper timelines to track key evolutionary moments of the chosen conflict and to collect personal accounts, building collective narratives. This integrated approach combined spatial analysis with temporal storytelling to provide a comprehensive understanding of local LCs. The Brazilian

case showed land conflicts highly connected to the State, which acts as both attacker and defender. In Argentina, participants identified the forestry sector and private actors (e.g., large landowners) as central drivers. Workshops enabled local communities to identify root causes and historical trajectories, leading to culturally appropriate solutions for ecosystem service conflicts. Results demonstrate the use of citizen science applications to understand human-nature relationships in land conflict dynamics, and foster public engagement in ecosystem governance. This study bridges traditional knowledge with scientific approaches, creating hybrid understandings that support biodiversity conservation and social justice objectives.

Keywords: Citizen science, South America, workshop, community, triple-frontier

14. Bridging Metrics and Meaning: Youth Perspectives on Wellbeing in Urban Nature

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How can we understand and evaluate the well-being benefits of urban nature beyond conventional metrics? In Finland, the multidisciplinary VALUE project (2021–2023) developed the Green Area Factor for Districts, a new planning tool designed to quantify and communicate the value of urban green infrastructure. The tool produces numerical estimates for biodiversity, climate resilience and human well-being, supporting more balanced and informed land use decisions.
The tool is based on a classification of anthropogenic habitat types, which provides a consistent basis for evaluating all three value dimensions. For well-being specifically, each type has been assessed for its potential to promote physical, mental and social well-being. As part of the tool's development, a participatory sub-study was conducted to explore how people actually experience well-being in different green environments.
Experiential data were collected in five pilot areas where the Green Area Factor had already been calculated. Using a mobile photovoice application, participants took photos of nearby green spaces, reflected on their experiences and answered a short well-being survey. This allowed for direct comparison between modelled values and lived experience.
A central feature of the study was the involvement of Finnish high school students. Workshops were organised in upper secondary schools across three cities in the Helsinki metropolitan area, combining environmental education, citizen science and ecosystem service research. Students were introduced to urban nature and its benefits before conducting their own fieldwork using the app.
A total of 745 valid data points were collected. The findings supported the spatial well-being model, while also revealing experiential aspects often missed by conventional assessment methods. These included atmosphere, feelings of safety and sensory variation in terrain. The study presents a scalable approach to incorporating lived experience into planning tools and demonstrates how youth engagement can enhance the relevance and legitimacy of ecosystem service assessments.

Keywords: urban nature, well-being, photovoice, youth engagement, ecosystem services