



Errata: In the original publication of this paper one author was missing from the author line. The paper was corrected on 6 June 2025. In addition, the paper's original introduction by the journal Editors-in-Chief has been removed, to be published separately.

Guest Editorial

Welcome home! Introducing SocSES: a society for inclusive and impactful social-ecological research

[Alta de Vos](#)¹ , [Allyson Quinlan](#)² , [Reijpette Biggs](#)^{1,3} , [Elena M. Bennett](#)^{4,5} , [Berta Martín-López](#)⁶ , [Albert V. Norström](#)^{3,7} 
, [Garry D. Peterson](#)³ , [Michael Schoon](#)⁸ , [Craig R. Allen](#)⁹ , [Erik Andersson](#)^{3,10} , [Julia Baird](#)^{11,12} , [Patricia Balvanera](#)¹³ 
, [Marta Barbés-Blázquez](#)^{8,14} , [Fikret Berkes](#)¹⁵ , [Rafael Calderon-Contreras](#)¹⁶ , [Stephen R. Carpenter](#)¹⁷ , [Antonio J. Castro](#)¹⁸ 
, [Graeme S. Cumming](#)¹⁹ , [Marianne Falardeau](#)²⁰ , [W. Liebrecht Fick](#)¹ , [Carl Folke](#)^{3,21} , [Elson Ian Nyl E. Galang](#)²² , [Stefan
Gelcich](#)²³ , [Line J. Gordon](#)³ , [Nancy B. Grimm](#)²⁴ , [Jacqueline Hamilton](#)⁴ , [Jennifer Hodob](#)²⁵ 
, [Chinwe Ifejika Speranza](#)²⁶
, [Larissa Koch](#)²⁷ , [Aleksandra Kosanic](#)²⁸ , [Rafael Lembi](#)²⁹ , [Bruno Locatelli](#)³⁰ , [Katja Malmberg](#)^{31,32} , [Amanda
Manyani](#)¹ , [Morgan Mathisonlee](#)²⁹ 
, [Anahi Ocampo-Melgar](#)³³ , [Kinga Psiuk](#)¹ , [Cibele Queiroz](#)³ , [Maraja Riechers](#)³⁴ 
, [Lisen Schultz](#)³ , [Odirilwe Selomane](#)^{1,35} , [Kate Sherren](#)³⁶ , [Marja Spierenburg](#)^{37,38} , [Micaela Trimble](#)^{39,40} , [Francis
Turkelboom](#)⁴¹  and [Caroline Wallington](#)¹ 

ABSTRACT. Underpinned by systemic thinking, social-ecological systems (SES) research has emerged as a critical field for addressing the challenges of the Anthropocene, marked by a cross-scale focus, inter- and transdisciplinary approaches, and a strong emphasis on place-based work. Thanks to the efforts of many networks and institutes, the field has advanced new theoretical and methodological approaches, fostered dedicated journals, and spurred educational programs. It has also significantly influenced sustainability initiatives and policy from local to global scales, and has richly informed place-based efforts. Despite this progress, SES research faces persistent challenges, including conceptual and methodological fragmentation, difficulty in scaling localized insights to global frameworks (and vice versa), and capturing cross-scale connections and processes while retaining contextual relevance. Inclusivity also remains a critical issue, with regional, Indigenous, and local contributions often underrepresented, as there is still a reliance on short-term, inequitably distributed grant funding for much of the research in the field. This paper introduces the Society for Social-Ecological Systems (SocSES), a global platform designed to build on and connect to the rich legacy of SES networks. SocSES aims to advance and support SES-based research, practice, and action toward a just and sustainable future. We outline how SocSES will provide a home for SES institutes, networks, researchers, and practitioners working at the science-practice-policy interface to connect and amplify existing efforts through thematic streams, regional hubs, an institutional hub, an early-career professionals hub, and synthesis groups. The society will provide a stable infrastructure to foster interdisciplinary and transdisciplinary collaboration, enhance the generalizability and policy relevance of SES research, bolster education, research, and knowledge co-production, and support the next generation of SES professionals. By addressing the persistent challenges facing the field and fostering transformative spaces and communities for innovation and action, SocSES aspires to support and leverage SES knowledge as a cornerstone of global sustainability science. In line with the society's commitment to linguistic diversity and equitable access, this abstract has been translated into 12 languages by authors of this paper and additional contributors. These translations are available in Appendix 2 and at <https://soces.org/about/paper>.

Key Words: *social-ecological systems research, knowledge co-evolution, institutionalization of SES research, research networks, communities of practice, transdisciplinary and interdisciplinary collaboration*

INTRODUCTION

Social-ecological systems (SES) research has emerged as a vital field for addressing the complex challenges of the Anthropocene^[1] across scales (Folke et al. 2016, Biggs et al. 2021, Bennett and Reyers 2024). Rooted in the understanding that human and ecological systems

are intertwined and function as complex adaptive systems (Berkes and Folke 1998, Levin et al. 2013, Preiser et al. 2018), and enriched by other scholarly traditions that explore the social-environmental nexus (Burnside et al. 2022, Chester et al. 2023), SES work responds to persistent sectoral and reductionist approaches in academia,

¹Centre for Sustainability Transitions, Stellenbosch University, ²Resilience Alliance, ³Stockholm Resilience Centre, Stockholm University, Sweden, ⁴Department of Natural Resource Sciences, McGill University, ⁵Bieler School of Environment, McGill University, ⁶Social-Ecological Systems Institute (SESI), Faculty of Sustainability, Leuphana University Lüneburg, Lüneburg, Germany, ⁷Future Earth Secretariat, Stockholm, Sweden, ⁸School of Sustainability, Arizona State University, Tempe, Arizona, USA, ⁹University of Nebraska Lincoln, School of Natural Resources, ¹⁰Faculty of Biological and Environmental Sciences, Ecosystems and Environment Research Programme & Helsinki Institute of Sustainability Science (HELSUS), University of Helsinki, Helsinki, Finland, ¹¹Environmental Sustainability Research Centre, Brock University, Canada, ¹²Department of Geography and Tourism Studies, Brock University, Canada, ¹³Instituto de Investigaciones en Ecosistemas y Sustentabilidad, Universidad Nacional Autónoma de México (UNAM), Morelia, Mexico, ¹⁴University of Waterloo, School of Planning and Faculty of Environment, ¹⁵Natural Resources Institute, University of Manitoba, ¹⁶Universidad Autónoma Metropolitana, Unidad Cuajimalpa, ¹⁷Center for Limnology, University of Wisconsin-Madison, Madison, WI, USA, ¹⁸Laboratory of Sustainability, Resilience and Governance of Socio-Ecological Systems, Andalusian Centre for Global Change - Hermelindo Castro, University of Almería, Spain, ¹⁹Oceans Institute and School of Earth and Oceans, University of Western Australia, Crawley, Perth, Australia, ²⁰University of Quebec (TELUQ), ²¹Beijer Institute of Ecological Economics, Royal Swedish Academy of Sciences, ²²McGill University, ²³Center of Applied Ecology and Sustainability (CAPES), Instituto Milenio en Socio-ecología Costera (SECOS), Pontificia Universidad Católica de Chile, Santiago, Chile, ²⁴Arizona State University, ²⁵Sustainability Research Institute, University of Leeds, ²⁶Institute of Geography, University of Bern, Switzerland, ²⁷Institute of Geography and Institute of Environmental Systems Research, Osnabrück University, Germany, ²⁸Liverpool John Moores University, United Kingdom, ²⁹Department of Community Sustainability, Michigan State University, ³⁰CIRAD, Forests and Societies, University of Montpellier, F-34398 Montpellier, France, ³¹Department of Biological Sciences, University of Bergen, Norway, ³²Centre for Sustainable Area Management, University of Bergen, Norway, ³³Facultad de Ciencias Forestales y Conservación de la Naturaleza, Universidad de Chile, ³⁴Thünen Institute of Baltic Sea Fisheries, ³⁵Department of Agricultural Economics, Extension and Rural Development, University of Pretoria, ³⁶School for Resource and Environmental Studies, Dalhousie University, ³⁷Leiden University, ³⁸Stellenbosch University, South Africa, ³⁹SARAS Institute, ⁴⁰Facultad de Ciencias, Universidad de la República, ⁴¹Research Group Nature and Society, Research Institute for Nature and Forest (INBO)

policy, and practice. Over the past three decades, the SES field has grown substantially and now stands at a critical transition point that requires new structures to better organize the community, facilitate inclusive collaboration, and leverage insights from the field to inform action toward more sustainable and just futures across multiple scales (Manyani et al. 2024).

The inter- and transdisciplinary character of SES work has been foundational since its early development (Berkes and Folke 1998), catalyzed by efforts to bring together ecology, economics, geography, sociology, anthropology, political science, and related fields (Sundstrom et al. 2023). This intellectual convergence laid the groundwork for the approaches that now define the SES field (Balvanera et al. 2017, Norström et al. 2022), and has demanded the development of new and integrated theoretical and methodological approaches (Preiser et al. 2018, De Vos et al. 2019, Biggs et al. 2021, Norström et al. 2022), alongside journals, funding schemes, and research networks (Carpenter et al. 2012, Calderón-Contreras et al. 2022, Manyani et al. 2024, Manyani 2025). The field has also given rise to graduate, undergraduate, and non-graduate programs at many academic and non-academic institutions that increasingly foreground reflexivity and transdisciplinary competencies (Haider et al. 2018, Biggs et al. 2021, Norström et al. 2022, Manyani et al. 2024).

Despite this growth and success, the field faces several conceptual and structural challenges as it seeks to deepen its influence to drive change toward more sustainable and just development pathways (Reyers et al. 2018, Norström et al. 2022). Researchers have to balance groundedness with agility in defining methodological integrity (Haider et al. 2018, De Vos et al. 2021, Schlüter et al. 2021, Chambers et al. 2022, Seiferth et al. 2024), and context dependency with the need for generalizable knowledge (Lade and Niiranen 2017, Magliocca et al. 2018, Meyfroidt et al. 2018, Cox et al. 2020). Regional imbalances, largely shaped by colonial legacies, have constrained the exploration of diverse social-ecological contexts and connections that could inform global sustainability efforts (Balvanera et al. 2017, Guibrunet et al. 2024, Manyani et al. 2024). SES research is also challenged by scientific skepticism, climate change denial, and rising political polarization—broader societal dynamics that foster disinformation, undermine public trust in science (Zapp 2022, Benson 2024), and threaten long-term research funding. But perhaps most pressingly, the SES field has to navigate embracing a diverse and growing community while sustaining the networks, relational foundations, and small-group interactions that have driven its development (Manyani et al. 2024).

While demand for SES insights and collaboration continues to grow, most existing networks remain precariously funded and were intentionally designed as flexible, distributed communities—not as long-term coordinating infrastructures for the field. These design choices fostered innovation and strong relationships, but coupled with persistent funding challenges, they now constrain the ability of networks to scale, coordinate activities, and provide sustained support—particularly for early-career researchers and for efforts to broaden participation across regions, disciplines, and knowledge systems. Consequently, although many active SES-focused networks exist, the field remains fragmented and lacks a stable, unifying structure. What is now needed is a well-resourced institutional platform—one that can coordinate across networks, support researchers and practitioners

at the science-policy-practice interface, and help consolidate the identity of SES research and practice by connecting the growing number of centers, programs, and projects worldwide (Norström et al. 2017, 2022, Manyani et al. 2024). Such a structure is crucial to leverage the field's collective contributions in confronting urgent sustainability and equity challenges (Bednarek et al. 2025).

To support the growing scope and diversity of the SES field and to build on its momentum and evolving opportunities, two prominent SES networks—the Programme for Ecosystem Change and Society (PECS) and the Resilience Alliance (RA)—have partnered to lead the establishment of a new Society for Social-Ecological Systems (SocSES, pronounced “sock-ses”; <https://socses.org/>). This society aims to support and strengthen inter- and transdisciplinary SES research, practice, and action toward a more equitable, just, and sustainable future by providing an intellectual home, a sense of community, and a shared identity for SES researchers, practitioners, research institutes, and networks worldwide.

This paper introduces SocSES as a timely response to both the persistent challenges and generative opportunities facing the SES field. Rather than positioning SocSES as a corrective or replacement, we present it as a necessary next step in the evolution of a thriving but under-supported research community—one whose expanding reach, increasing conceptual maturity, and growing relevance to sustainability policy now demand more intentional coordination and institutional support. We situate SocSES within the broader trajectory of SES research, highlighting the milestones, tensions, and aspirations that have shaped its evolution. We outline the society's vision, mission, and core functions, including its commitment to co-developing a more inclusive, globally representative SES community. Finally, we discuss the implications of SocSES for the future of SES research, focusing on how it can enhance collaboration, bridge theory and practice, and foster transformative action toward more just and sustainable futures.

FOUNDATIONS OF THE FIELD

The field of SES has emerged through decades of conceptual innovation, interdisciplinary collaboration, and institutional experimentation (Fig. 1). Several influential strands of work in the 1970s and 1980s, including on ecological resilience (Holling 1973), adaptive management (Holling and Chambers 1973), complex systems thinking (Holling 1978), and natural resource governance (Ostrom 1990), culminated in the formal articulation of coupled social-ecological systems in the late 1990s (Berkes and Folke 1998). These ideas were advanced through informal collaborations and early workshops (particularly those convened by the Beijer Institute) that helped crystallize the field's central insight: that human and ecological systems are deeply intertwined and must be studied as complex adaptive systems (Gunderson and Holling 2002, Folke 2006, Folke et al. 2016, Holling 2017, Preiser et al. 2018, Manyani et al. 2024).

This early work laid the groundwork for the establishment of the Resilience Network that became formalized as the RA in 1999. The RA played a pivotal role in shaping the SES field by developing and synthesizing foundational concepts such as resilience thinking (Folke et al. 2005, 2010), the adaptive cycle and panarchy (Gunderson and Holling 2002), and social-ecological traps (Platt 1973, Allison and Hobbs 2004, Carpenter

and Brock 2008, Bowles et al. 2011). It pioneered a distinctive mode of collaboration through small, interdisciplinary workshops designed to foster trust, creativity, and theoretical integration (Walker et al. 2004, Parker and Hackett 2012, Scheffer et al. 2024), an approach that remains a hallmark of SES research today. Beyond shaping theory, the RA helped legitimize the emerging SES field through the launch of *Ecology and Society*, one of the first open-access, online-only journals for interdisciplinary sustainability science (Folke et al. 2016, Schlüter et al. 2019, Manyani et al. 2024). It also translated theory into practice through tools like the Resilience Assessment Workbook and Wayfinder guide (Walker et al. 2002, Resilience Alliance 2010, Enfors-Kautsky et al. 2021) and extended its influence by seeding institutions such as the Stockholm Resilience Centre and Socio-Environmental Synthesis Center (SESYNC) (Palmer et al. 2016, Manyani et al. 2024). Finally, through the Resilience Alliance Young Scholars initiative, the RA played a key role in mentoring a new generation of researchers (Manyani et al. 2024), many of whom authored foundational SES work (e.g., Norberg and Cumming 2008, Biggs et al. 2015) and have since become leaders in the field (Manyani et al. 2024).

The Millennium Ecosystem Assessment (MA) played a catalytic role in advancing the SES field by legitimizing interdisciplinary and systems-based approaches at the global science-policy interface (Reyers et al. 2018). The MA drew on work by the RA and the Beijer Institute to embed resilience thinking, adaptive governance, and the importance of non-linear dynamics, thresholds, and feedbacks into its framework and activities (Walker et al. 2004, Folke et al. 2016, Reyers et al. 2018), particularly in its development of explicitly social-ecological scenarios (Peterson et al. 2003, Millennium Ecosystem Assessment 2005, Raskin 2005, Carpenter et al. 2006). By embedding key SES concepts into large-scale assessment and scenario processes (Carpenter et al. 2009, Reyers et al. 2018), the MA provided a high-profile platform for collaboration across epistemologies, exposing the methodological limitations of dominant modeling approaches in capturing social-ecological dynamics (Cumming et al. 2005), and set powerful precedents for inclusive, transdisciplinary research (Reyers et al. 2018). Importantly, the MA also included a set of subglobal assessments, which enabled greater context specificity and relevance to regional challenges and priorities (Millennium Ecosystem Assessment 2005). In addition to its conceptual contributions, the MA helped catalyze a wave of institutional development, including the development of several SES institutes, training programs, and research networks (Mooney et al. 2013, Diaz et al. 2015, Balvanera et al. 2017, Manyani et al. 2024). Among the most prominent networks emerging from this era were PECS and the Global Land Programme (initially “Global Land Project”), both established specifically to address the need for globally relevant, locally grounded research on social-ecological dynamics (Kok et al. 2007, Carpenter et al. 2009, 2012). The MA also led to the creation of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), a formalized science-policy platform for advancing integrated approaches to biodiversity, ecosystem services, and human well-being (Diaz et al. 2015).

Since the MA, a substantial number of SES networks have emerged at global and local scales (Fig. 2, Appendix Table S1), cultivating enduring communities of practice (Biggs et al. 2023,

Manyani et al. 2024)—self-organized groups grounded in mutual trust, iterative learning, and long-term collaboration (Wenger 1998). These communities have played a vital role in sustaining and evolving the SES field by fostering a shared conceptual language (Fischer et al. 2015), supporting methodological innovation across disciplines and knowledge systems (Biggs et al. 2021, West and Schill 2022), and enabling long-term collaboration and learning across cases, regions, and scales (Balvanera et al. 2017, Norström et al. 2022). These communities have increasingly included transformation-oriented (e.g., the Transformations Community) and science-practice-policy-focused networks (e.g., Global Resilience Partnership) that bridge research and action, extending the field’s reach and relevance in real-world decision-making contexts.

Over time, the growing influence of networks and their communities of practice have both shaped and been shaped by the establishment of dedicated SES research institutes (an interactive map and table can be found in Appendix 1 and at <http://socses.org/about/paper>), creating a reinforcing cycle where networks fostered institutionalization and institutes provided stable platforms for networks to expand (Martín-López et al. 2020, Biggs et al. 2023, Manyani et al. 2024, Manyani 2025). By expanding regional hubs and connecting researchers across institutional boundaries, these networks have broadened the field’s geographic and epistemic reach, promoted knowledge pluralism, and strengthened science-policy engagement through platforms like IPBES (Fischer et al. 2015, Martín-López et al. 2020). Critically, these networks have offered support for researchers embedded in disciplinary or institutionally isolated settings, enabling participation in a global epistemic community and advancing regionally rooted research that broadens the field’s geographic and cultural scope (Calderón-Contreras et al. 2022, Norström et al. 2022). Many of these communities have increasingly grappled with issues of power, inclusion, and transformation, contributing to a broader shift in the field toward justice-oriented and reflexive approaches (Norström et al. 2022). Through this ecosystem of relational, place-based, and evolving collaboration, SES networks have become the scaffolding through which much of the field’s most generative and inclusive scholarship has emerged.

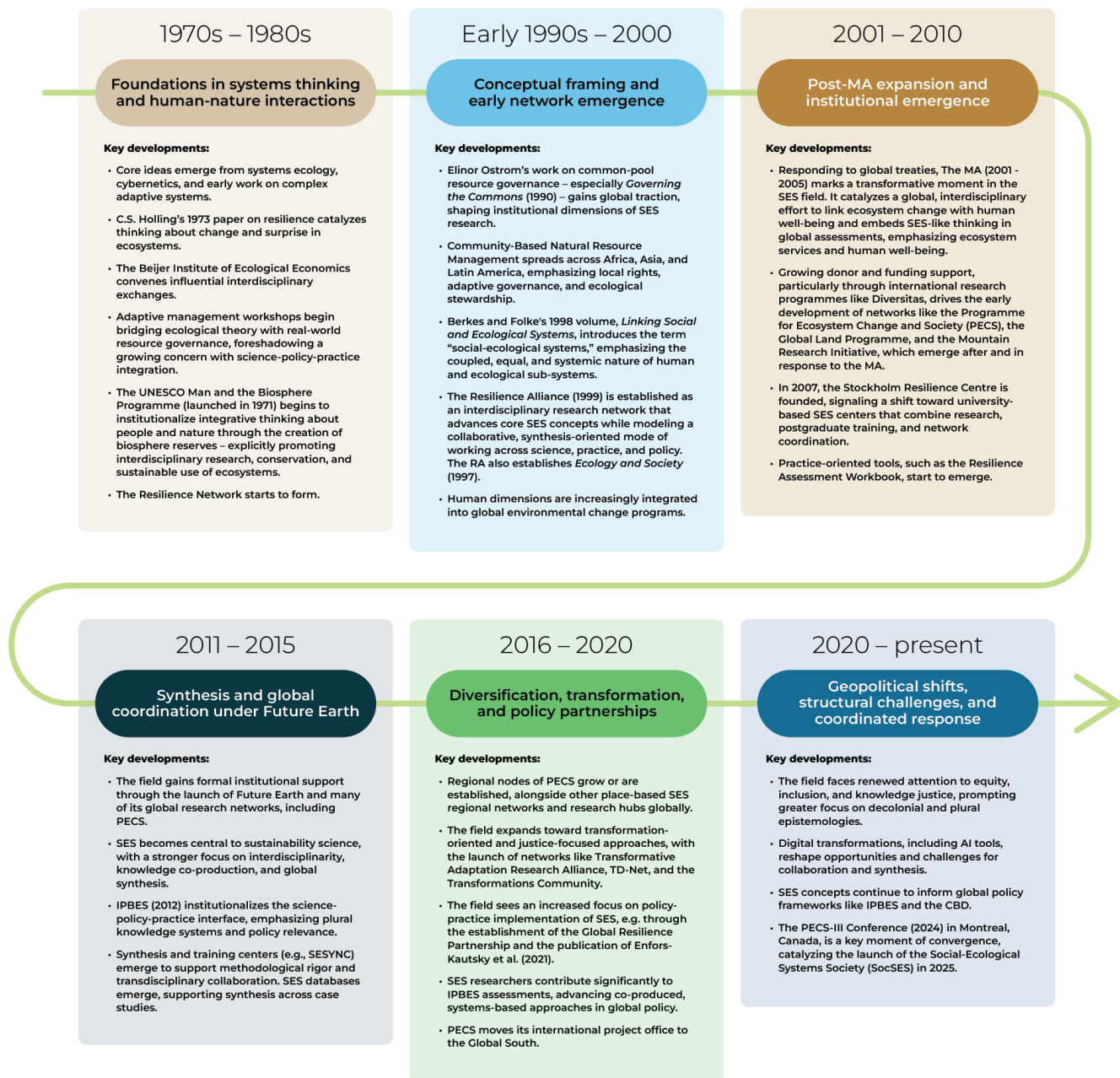
NEW FRONTIERS IN AN EXPANDING FIELD: NAVIGATING GROWTH, COMPLEXITY, AND THE NEED FOR COORDINATION

As the field has grown in depth, diversity, and global reach, so too have the opportunities and challenges associated with sustaining collaboration, navigating complexity, and deepening the impact of SES research across scales and contexts. This section discusses some of the key emerging frontiers.

Advancing systemic social-ecological systems understandings

A longstanding issue in SES research, policy, and practice is developing analytical and theoretical frameworks that adequately integrate ecological feedbacks alongside social and institutional dynamics—particularly when dealing with nonlinear interactions, cascading effects, and cross-scale feedbacks (Cumming et al. 2005, Guerrero et al. 2018, Schlüter et al. 2019, Falardeau and Bennett 2020, Bennett and Reyers 2024). This challenge has often played out in the form of uneven attention to different system components. Historically, SES research has been critiqued for its dominant focus on ecological dynamics and quantitative

Fig. 1. A timeline of key periods in the evolution of the social-ecological systems field. AI, artificial intelligence; CBD, Convention on Biodiversity; IPBES, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services; MA, Millennium Ecosystem Assessment; SES, social-ecological systems.

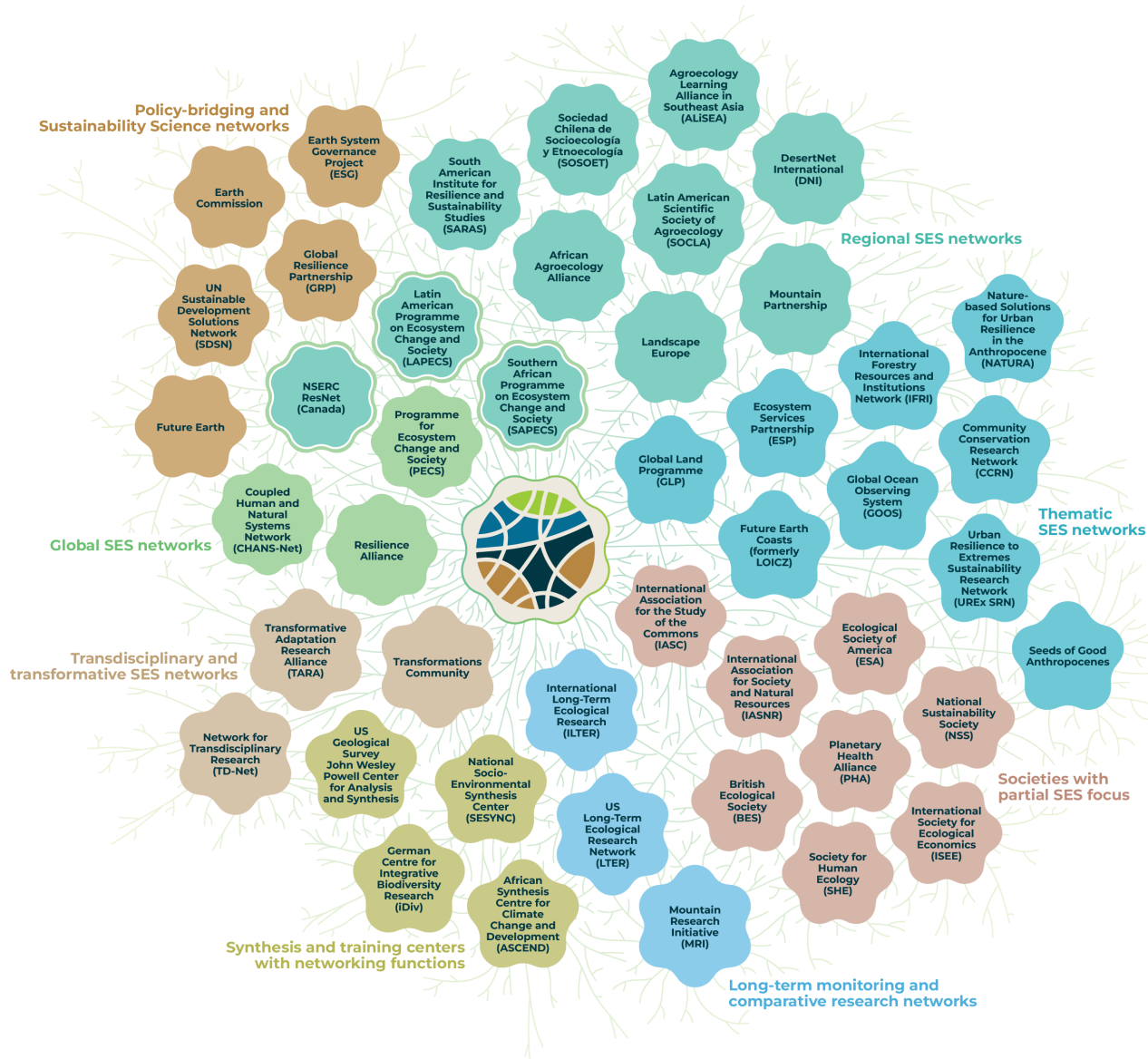


methods, underemphasizing critical social dimensions such as power relations (Cote and Nightingale 2011, Brown 2014, Copes-Gerbitz et al. 2021), governance structures, and cultural factors (Adger 2000, Stojanovic et al. 2016, Horcea-Milcu et al. 2020, McIlwain et al. 2023). In the other direction, many studies that claim to be social-ecological ignore ecological variables altogether (Guerrero et al. 2018).

The central challenge is not simply one of inclusion or emphasis (which is also influenced by the scales of interactions; Cumming

and Dobbs 2020), but of navigating the epistemological tensions that arise when different paradigms (each with their own ontologies, assumptions, and ways of knowing) converge in the study of SES. These tensions are not a flaw in the field, but a defining feature of the complexity it seeks to engage (Preiser et al. 2018, Hertz et al. 2020, Bennett and Reyers 2024). SES research aspires to go beyond interactionism (where social and ecological entities are seen as distinct but linked) to relational approaches that treat these domains as fundamentally entangled, co-constituted, and inseparable (Preiser et al. 2018, Chester et al.

Fig. 2. SocSES has emerged from the co-evolution of social-ecological systems [SES] networks that have shaped the development of the SES field, fostering interdisciplinary research, synthesis efforts, and stronger linkages between science, policy, and practice. This figure highlights the interwoven nature of prominent SES networks.



2023, Bennett and Reyers 2024). Thus, there remains an urgent need for frameworks and methods that simultaneously incorporate key social, ecological, and technological variables and feedback loops while also addressing the ontological assumptions underlying SES research (Guerrero et al. 2018, Hertz et al. 2020, Bennett and Reyers 2024). Addressing these tensions requires not just conceptual innovation, but also more shared spaces for reflexivity and synthesis—where scholars can navigate pluralism, challenge disciplinary defaults, and build frameworks and models that reflect the fuller complexity of SES. While some of this work is already underway—including major advances in recognizing feedbacks, coevolution, and systemic approaches to

transformation (Folke et al. 2016, Norström et al. 2022)—it remains a frontier for both theoretical development and collaborative practice.

Navigating approaches for place-based and global impact

SES research is increasingly defined by a productive and necessary tension between the richness of place-based, transdisciplinary research and the need for generalizable frameworks and approaches that can support cross-scale synthesis and policy relevance. SES research often produces rich, localized insights, but significant barriers remain in translating these into frameworks or mid-range theories that are broadly applicable

across diverse regions and contexts (Balvanera et al. 2017, Magliocca et al. 2018, Meyfroidt et al. 2018, Schlüter et al. 2019, Rocha et al. 2022). Inconsistent modeling approaches across studies, a lack of methodological coherence and transparency, and limited longitudinal data continue to hinder synthesis and generalizability (Magliocca et al. 2018, Schlüter et al. 2019, Cox et al. 2020).

Much effort has gone into addressing these challenges of integration and synthesis. Networks like PECS were specifically established to help synthesize more generalizable insights from place-based research (Carpenter et al. 2012), and this has been complemented by initiatives that reduce fragmentation and strengthen shared approaches. Projects like the *SES Methods Handbook* (Biggs et al. 2021), for example, have helped build methodological coherence, and the development of various case-study databases has yielded important theoretical and methodological advances in natural resource governance (e.g., Cox et al. 2016, 2020), transformation (Pereira et al. 2020, Kuiper et al. 2024), and regime shifts (e.g., Biggs et al. 2018, Rocha et al. 2018). Despite these important efforts, structural barriers remain that limit the field's ability to produce timely, actionable insights across scales. Challenges such as limited shared infrastructure for synthesis, ongoing tensions in integrating diverse knowledge systems, and uneven institutional support continue to hinder the SES field's ability to inform decision-making from local to global levels (Folke et al. 2016, Reyers et al. 2018, Norström et al. 2022).

At the same time, producing generalizable knowledge is not always the goal of transdisciplinary SES work (Angelstam et al. 2013, Balvanera et al. 2017), and in some cases may undermine it by reinforcing dominant paradigms at the expense of weaving context-appropriate knowledge systems (Angelstam et al. 2013). Although the field has made progress in linking diverse knowledges in place-based contexts (Tengö et al. 2014), particular challenges remain in effectively weaving together different epistemologies and knowledge systems, as well as aligning research with social actor perspectives (Tengö et al. 2014, Balvanera et al. 2017, Schneider et al. 2021, Turnhout 2024), requiring more reflexive and rigorous methodologies and inclusive knowledge co-production processes (Balvanera et al. 2017). Moreover, developing frameworks that connect theory to participatory action and learning, and fostering transdisciplinary, multi-knowledge communities of practice alongside, is a critical next step for the field (Cundill et al. 2015, Sellberg et al. 2017, Bennett and Reyers 2024). In this domain, unique opportunities derive from long-term horizontal collaborations with artists, organizers, and social movements, that can weave emotions, embedded knowledge, and insights derived from a wide range of academic disciplines into experiences and non-verbal actionable knowledge (Österblom et al. 2023, Balvanera et al. 2025).

A strong place-based orientation has brought SES research closer to real-world complexity—embracing participatory approaches, diverse knowledge systems, and context-sensitive frameworks (Tengö et al. 2014, Schneider et al. 2021, Norström et al. 2022). Yet these same strengths can complicate efforts to synthesize findings across cases or generate generalizable frameworks that inform cross-scale decision-making (Balvanera et al. 2017, Magliocca et al. 2018, Schlüter et al. 2019). Rather than seeing

this as a contradiction to be resolved, SES researchers increasingly recognize it as a dynamic that must be navigated—by investing in both methodological coherence and epistemological inclusivity (Biggs et al. 2021, Bennett and Reyers 2024) and keeping these approaches and goals in conversation with each other.

Supporting diverse participation in SES research

The SES field has made deliberate efforts to embrace more inclusive and pluralistic approaches, reflected in its growing geographic reach, epistemological diversity, and commitment to place-based research (Balvanera et al. 2017, Biggs et al. 2023, Manyani et al. 2024). In many ways, it has been successful: Global South leadership in networks like PECS and the formation of regionally grounded research networks have expanded participation and visibility for scholars working outside of dominant institutions (Balvanera et al. 2017, Bennett et al. 2021, Manyani 2025). Yet as the field has grown and gained traction globally, these advances have also increased the visibility of persistent structural challenges, such as funding disparities, language and visa restrictions, and the dominance of institutions, funders, and conferences in the Global North that continue to limit participation from Global South scholars and underfunded institutions (Calderón-Contreras et al. 2022, Kosanic et al. 2022, 2023, Manyani 2025). Inequities are compounded by the continued underrepresentation of BIPOC, LGBTQIA+, gender-diverse communities and researchers with disabilities, shaping whose knowledge, values, and epistemologies are recognized in SES research and practice (Balvanera et al. 2017, Reyers et al. 2018, Kosanic et al. 2022, 2023, Caniglia and Vogel 2023, Pascual et al. 2023).

Structural exclusions are reinforced by persistent funding inequalities, which have become even more consequential as the SES field matures and its ambitions expand. For example, large-scale international funding initiatives that supported SES efforts, such as the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP), and later Future Earth (Carpenter et al. 2009, Rockström 2016, Norström et al. 2017), have mainly been based in institutions in North America and Europe. These are not challenges unique to SES, but reflect deeper patterns across global academia (Oliveira et al. 2025); however, they are especially salient in a field that depends on, and advocates for, diverse knowledges and transdisciplinary collaboration (Reyers et al. 2018, Pascual et al. 2023). As such, the challenge is not only to broaden participation, but to reshape the institutions, norms, and infrastructures of SES research in ways that reflect its core commitments to justice, pluralism, and collaboration.

The tight-knit and highly networked nature of SES research has been instrumental to the field's success—enabling trust, deep collaboration, and intellectual coherence across disciplines (Manyani et al. 2024, Manyani 2025). Yet these same qualities now present a new challenge: as the field grows, its strong internal cohesion and reliance on established collaborations can unintentionally limit accessibility, reinforce epistemic exclusions, and constrain engagement with adjacent disciplines. Exclusion from networks remains a major barrier as many researchers, particularly early-career scholars and those outside dominant institutions, are unaware of how to join key SES initiatives or

networks, participate in synthesis efforts, or access transdisciplinary collaborations (Manyani 2025). This is also mirrored in the structure of SES research itself, which exhibits a highly cohesive network where scholars primarily cite within the field and where research not produced within dominant SES networks is often overlooked or excluded from how the field is defined (Manyani et al. 2024). Although this dense network reflects strong intellectual collaboration, it may also limit engagement with relevant insights from other fields, reinforcing epistemic exclusions and reducing opportunities for interdisciplinary innovation. Stronger cross-field engagement with fields such as climate change (Reyes-García et al. 2024), disaster management (Haque et al. 2022, Lejano et al. 2021), conservation (Hoole and Berkes 2010, Jupiter et al. 2017), ecological restoration (Fischer et al. 2021), agroecology and rural development (Baldwin and van Bommel 2023), and planning (Berkes 2023) could enhance both theoretical and applied contributions.

An institutional home that can coordinate research-for-action

As the SES field has grown in scope, depth, and relevance, it has outpaced the institutional infrastructure needed to support and sustain it. Landmark institutions such as the Stockholm Resilience Centre and SESYNC have played pivotal roles in shaping training, synthesis, and collaborative research (Folke et al. 2016, Schlüter et al. 2019), while many smaller centers and research networks have extended this impact globally (Manyani et al. 2024). Yet much of SES work remains precariously housed in soft-funded centers and short-term initiatives, vulnerable to shifting funding landscapes and institutional restructuring (Norström et al. 2022, Manyani et al. 2024), creating employment precarity, fragmented research agendas, and institutional instability (Manyani 2025). Such instability reflects broader academic trends toward the casualization of university labor and the underfunding of interdisciplinary research (Reyers et al. 2018), but in the case of SES, it also reveals a critical maturity challenge: the field's increasing demand for coordination, training, and collective identity now exceeds what distributed, project-based support can offer and was designed to do. Without a cohesive institutional home, global SES efforts remain fragmented—limiting synergies, duplicating efforts, and constraining the long-term sustainability of the networks that have driven the field forward (Balvanera et al. 2017, Preiser et al. 2018).

The SES field now stands at a pivotal moment, uniquely positioned to address the increasing complexity of sustainability challenges in the Anthropocene (Reyers and Selig 2020, Convention on Biodiversity [CBD] 2022, IPBES 2024). While decades of foundational work have helped mainstream key SES concepts, the field must now respond to an urgent need for synthesis, theoretical innovation, and actionable, scalable insights that link global goals with local realities (Balvanera et al. 2017, Reyers et al. 2018, Norström et al. 2022, Holzer et al. 2024), while continuing to support place-based, transdisciplinary work that addresses immediate and context-specific challenges. At the same time, it must confront persistent structural barriers and leverage its increasingly global, diverse, and uneven network of institutions and initiatives. However, unlocking the full potential of these networks requires stronger, more sustained mechanisms for coordination and cross-network learning, without losing the relationships and trust that have defined the field's success. To

realize its potential and meet the urgency of the Anthropocene, the SES field now needs a shared infrastructure that can link and consolidate these efforts, amplify their reach, and transform distributed energies into collective momentum for action.

BUILDING A MORE IMPACTFUL, INCLUSIVE, AND RESILIENT SOCIAL-ECOLOGICAL SYSTEMS COMMUNITY

Building on the strong foundations laid by diverse SES networks and institutions, SocSES seeks to address the challenges currently facing the field by creating a globally connected community of researchers and practitioners who are working at the science-practice interface to drive transformative change by fostering collaboration, advancing theory and practice, and integrating social-ecological perspectives into global sustainability efforts. With a mission to foster inter- and transdisciplinary research, practice, and actions that support a just and sustainable future, SocSES provides an intellectual home for the SES community around the world that is guided by core values of inclusivity, methodological innovation, practical relevance, equity, and justice. It emphasizes diverse frameworks, knowledge streams, and values, particularly from currently underrepresented regions. The society aims to support and coordinate efforts to advance and leverage SES research, policy, and practice to address the pressing challenges of the Anthropocene across multiple scales.

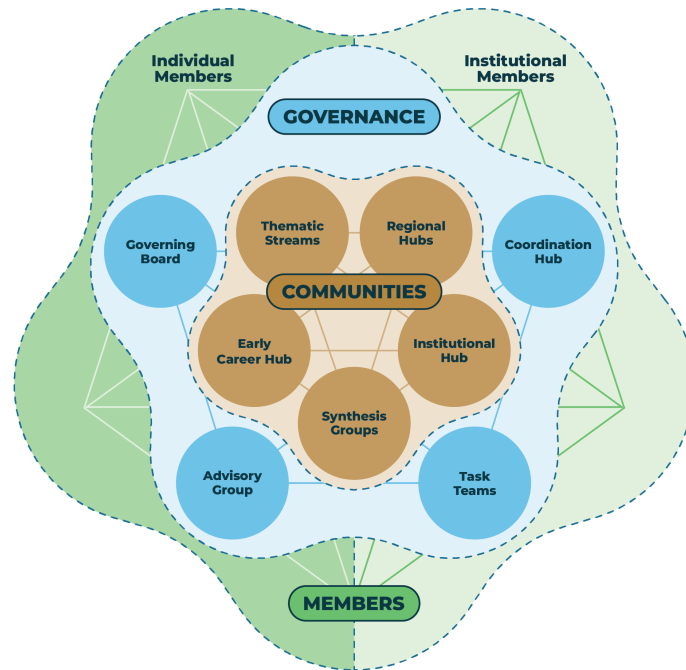
SocSES is envisioned as a co-created and member-driven organization, with its governance, activities, and priorities shaped collaboratively by its members. The founding transition phase of the society (Fig. 3) will ensure continuity with existing networks and will also provide a collaborative environment for shaping the long-term governance structures of the society. SocSES is uniquely positioned to guide the SES field at this critical juncture by addressing six interconnected dimensions: (1) establishing a coherent identity and coordinating platform for SES research and action, (2) addressing knowledge frontiers, (3) supporting transdisciplinary research partnerships and impact, (4) informing global policy and assessment, (5) supporting education and training, and (6) fostering inclusive and diverse spaces (Fig. 4).

Establishing a coherent identity and coordinating platform for social-ecological research and action

SocSES will serve as a hub to coordinate global efforts in SES research and practice, offering a “home” for this community that streamlines support structures and fosters synergies across networks, research centers, and projects. A governing board will ensure strategic oversight, institutional continuity, and financial stability by setting membership rates, approving hubs and streams, and overseeing the publishing arm, thus directly addressing challenges of fragmented governance and precarious funding models. The governing board will be supported by a small advisory group of “SES Elders” and other leading SES scholars with deep histories in the field, ensuring that the society can draw on its valuable collective memory. The governing board will also collaborate with dedicated “task teams” (constituting members drawn from various SocSES communities) who will develop key strategies and policies for the society.

An institutional hub, made up of representatives of institutional members, will foster networking opportunities and support across SES research centers, networks, and NGOs. This hub will allow

Fig. 3. Organizational structure of the Social-Ecological Systems Society (SocSES), highlighting how its communities—Thematic Streams, Regional Hubs, Synthesis Groups, Task Teams, the Early Career Hub, and the Institutional Hub—form the heart of the society. Governance and coordination structures are designed to support these communities, with individual and institutional members engaged across all levels. SocSES is built by and for these communities to foster collaboration, learning, and impact.



established and emerging SES research centers and networks across the world to share best practices, foster innovation, and support institutional development, including the development of educational programs that can drive the SES field forward and leverage its impact in policy and practice. The ability to be formally affiliated with SocSES aims to strengthen the position of SES research hubs across universities and research organizations, where they often occupy marginal and precarious spaces (Manyani et al 2025).

Recognizing the need for sustainable funding, the society will establish core funding streams through memberships and partnerships with funders. SocSES's publishing arm will also play a strategic role, serving not only as a hub for cutting-edge SES research but also as a platform that reinforces the field's shared identity and credibility. By supporting established outlets like *Ecology and Society*, exploring innovative formats, and partnering with values-aligned journals, SocSES signals that SES is not a transient research theme but a mature, evolving field with its own intellectual traditions and standards of practice.

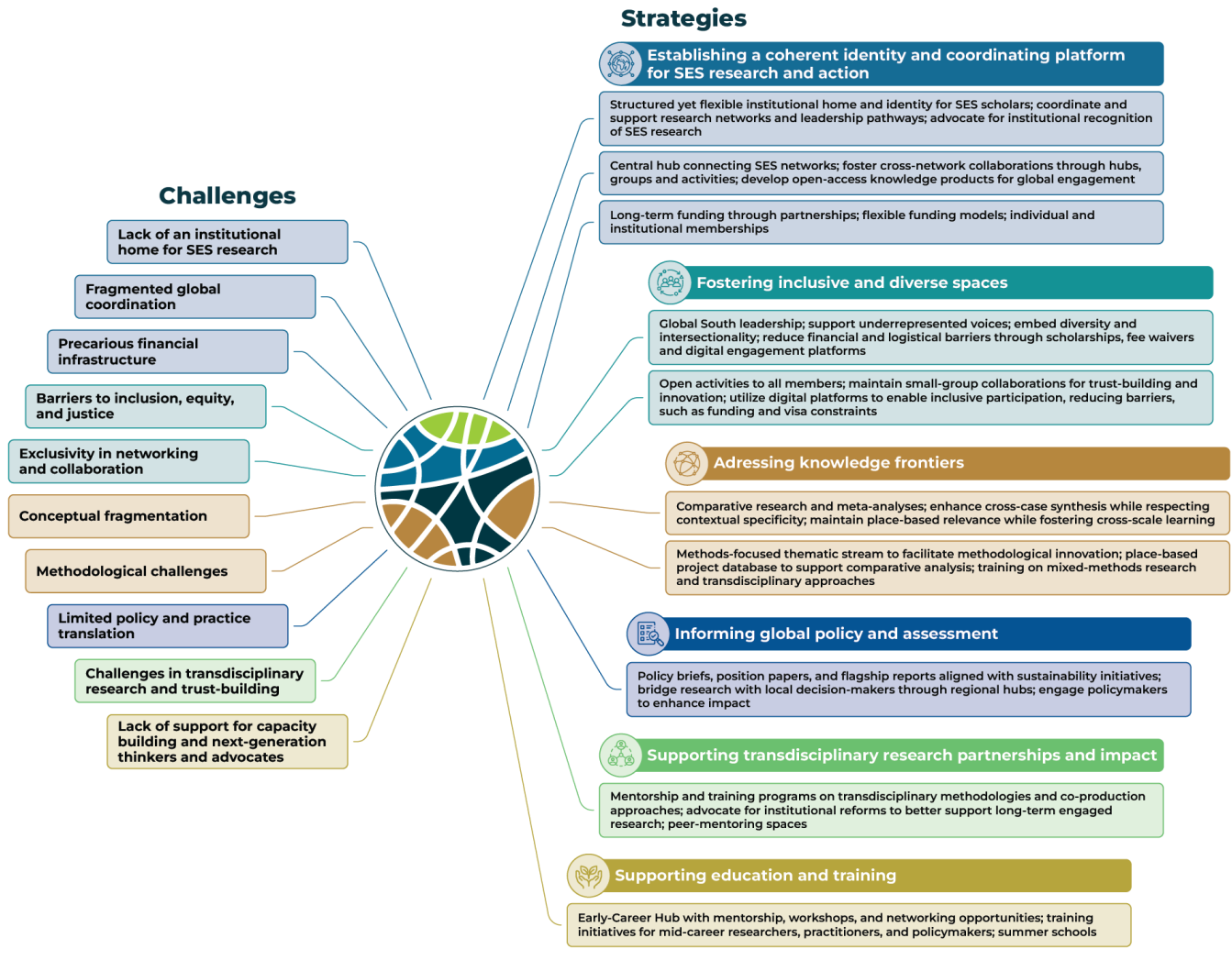
Fostering inclusive and diverse spaces

SocSES is being intentionally designed to foster inclusivity, equity, and diversity within the SES field—guided by decolonial and justice-centered approaches that challenge structural, institutional, and epistemic barriers, and that recognize engagement with diverse knowledge systems, bodies, and identities as essential for transforming SES research and practice (Caniglia and Vogel 2023, Kosanic et al. 2023, Pascual et al. 2023). This includes embedding disability-inclusive practices in conferences, online engagement, and governance; supporting intersectional perspectives that

account for power, identity, and systemic inequality; and seeking diverse representation across leadership, thematic streams, and regional hubs (Kosanic et al. 2022, 2023, Caniglia and Vogel 2023). SocSES is also committed to removing financial, institutional, language, and structural barriers through reduced fee–membership options, scholarship fundraising, and travel grants, while building accessible digital infrastructure mindful of connectivity, literacy, and language diversity. By prioritizing equitable North-South collaborations, investing in regional hubs and training opportunities, and supporting inter- and transdisciplinary training initiatives, SocSES will build capacity while fostering mutual respect, reciprocity, and co-learning in SES research and practice.

SocSES will furthermore embed diversity in its governance structures, with representatives from varied geographic, disciplinary, and cultural backgrounds participating in task forces and leadership positions. Leadership roles will rotate to ensure equitable collaboration and a plurality of perspectives. By placing the Global South at the heart of its founding coordination hub and leadership team, SocSES intends for perspectives and contributions from historically marginalized regions to shape its priorities and activities. Regional hubs will also play a pivotal role in amplifying marginalized voices, supporting transdisciplinary place-based work, and promoting context-specific learning to address longstanding inequities in the field. SocSES will also have an active early career hub, which will provide a forum to build relationships and equip the next generation of SES professionals with diverse skills and networks. Similarly, the institutional stream will help provide networking opportunities and representation for

Fig. 4. Challenges facing the social-ecological systems (SES) community and SocSES strategies to address them.



smaller SES institutions in under-resourced regions, thus helping to reduce structural inequities at both individual and institutional levels.

Advancing social-ecological systems knowledge frontiers

Thematic streams and their associated working groups will serve as incubators for conceptual and methodological innovation, advancing priority areas such as resilience thinking and practice; relational approaches; governance and collaboration; transformation and pathways; SES modeling and methods; place-based research and transdisciplinary; nature-based solutions and adaptation; and the monitoring, assessment, and evaluation of SES change. Thematic streams and working groups will also function as platforms for cross-network collaboration, connecting SES networks globally to co-create theoretical advances and innovative methods. Various synthesis groups will integrate insights across thematic streams, regional hubs, and curated databases to help bridge the gap between local findings and global sustainability frameworks. The group focused on integrating and sharing lessons between regional hubs will be particularly important for highlighting place-based context-sensitivity.

In the past decade several SES databases, such as the Biosphere Futures Database (<https://biospherefutures.net/> [Kuiper et al. 2024]), SES Methods Website (<https://sesmethods.org/>), Seeds Database (<https://goodanthropocenes.net/>), SES Library (<https://seslibrary.asu.edu/>), and Regime Shifts Database (<https://www.regimeshifts.org/>), have emerged as structured repositories of knowledge that enhance comparative research, support methodological innovation, and inform sustainability practices across diverse contexts. SocSES will run a “Database Curation Initiative” to compile these databases in a central place. Additionally, the society will set up an open-access database of place-based studies from its members, including information about the datasets collected in the projects. As the database evolves, it will also provide a foundation for interfacing with emerging artificial intelligence (AI) tools in ways that enhance ethical, inclusive, and reflexive synthesis of place-based knowledge. In a world increasingly shaped by AI-driven decision-making, this infrastructure offers a critical opportunity to ensure that context-rich, diverse, and grounded SES insights inform and help shape how AI engages with sustainability science, global policy frameworks, and real-world decision-making processes.

These database initiatives, coupled with a dedicated thematic stream on methods, will enhance the field's capacity to systematically compare and analyze SES studies, advancing methodological coherence, knowledge cross-fertilization, and enabling robust meta-analyses.

Supporting global policy and assessment

The conceptual advances described above are essential for overcoming the SES field's current limitations in generalizing localized insights and coordinating fragmented research efforts. By addressing these challenges through synthesis, methodological innovation, and integration across regions and themes, SocSES will not only advance foundational knowledge of SES but also provide the critical infrastructure to amplify and align these insights with global sustainability initiatives. Positioned as a central hub for SES research, SocSES will curate and develop impactful knowledge products, including databases, policy briefs, position papers, and flagship reports, designed to directly influence global sustainability frameworks and initiatives.

Working groups and cross-cutting synthesis initiatives will play a key role in generating insights and recommendations that are both generalizable and rooted in diverse sustainability contexts. This work will be closely supported by regional networks and place-based projects, whose engagement is critical for reflecting a plurality of values, knowledge systems, and situated practices. Leveraging its role as a coordinating platform, SocSES aims to ensure these outputs gain traction while serving as a key resource for identifying contributors and experts to engage in critical policy and assessment processes. Soon, these efforts may be amplified by new tools that interface with artificial intelligence, enabling curated SES databases to support dynamic knowledge synthesis, generate policy-relevant insights in real time, and offer alerts on emerging sustainability risks. We envisage these repositories to be valuable resources for future assessment processes, such as those conducted by IPBES.

Supporting transdisciplinary research partnerships and impact

SocSES recognizes that SES research is often most impactful at the local level, where researchers collaborate with communities, decision-makers, and practitioners to address sustainability challenges in contextually relevant ways (Balvanera et al. 2017, Norström et al. 2022). Many SES researchers do not aspire to global impact, but rather seek to understand, support, and influence local, place-based sustainability efforts. Yet despite progress in transdisciplinary research and knowledge co-production (Balvanera et al. 2017, Norström et al. 2022), SES researchers, particularly early-career scholars, continue to face persistent challenges in navigating the emotional weight and institutional constraints of this work. Aligning research with social actor perspectives (Reyers et al. 2018), sustaining long-term collaborations (Norström et al. 2022, Manyani et al. 2024), and ensuring meaningful local impact (Schneider et al. 2021) are ongoing struggles, particularly as transdisciplinary engagement rarely fits neatly within conventional academic, funding, or career advancement timelines (Balvanera et al. 2017, Manyani 2025).

SocSES aims to support transdisciplinary SES research and its impact by providing a platform for collaboration, shared learning, and advancing ethical practices. Researchers engaged in transdisciplinary SES work will have opportunities to exchange methodological approaches, lessons learned from diverse contexts, and coping strategies for navigating the complexities of

place-based transdisciplinary research. Strengthening regional hubs will be particularly important in this context, as these hubs serve as valuable spaces for fostering regionally appropriate and context-specific engagement with the challenges of place-based SES work. SocSES will also play a key role in capacity-building for early-career researchers, equipping them with training in transdisciplinary methodologies, co-production approaches, and strategies for collaborating effectively with local actors and decision-makers. Additionally, the institutional hub will be essential for addressing the broader structural and institutional dimensions of transdisciplinary SES research. This includes reflecting on how ethical place-based approaches intersect with university and SES institute structures, career advancement incentives, and training programs. SocSES is not a platform for local implementation or practitioner coordination, but rather a society designed to support, connect, and amplify the work of SES scholars who engage in transdisciplinary sustainability science.

Supporting education and training

As the SES field grows in complexity and global relevance, so too does the need for transformative approaches to education and capacity-building. The SocSES coordination hub will help meet this need by facilitating training programs, short courses, and immersive learning experiences that foreground transdisciplinary thinking, reflexivity, and methodological innovation. These efforts will address long-standing gaps in formal SES education and support practitioner engagement across contexts—with a particular focus on accessibility for researchers and institutions in resource-constrained regions. The institutional hub will complement this work by fostering collaboration among academic programs, enabling peer learning, resource-sharing, and curricular co-development across the society's institutional members. Together, these efforts aim not only to strengthen capacity but also to cultivate a more connected, reflexive, and globally inclusive SES research community—one capable of supporting the next generation of scholars and practitioners as they navigate the challenges of social-ecological transformation.

CONCLUSION

The SES field is entering a new phase—shaped by decades of innovation, collaboration, and growing societal recognition of the need for integrated approaches to sustainability. SES concepts are now mainstreamed, its networks more diverse and widespread, and its relevance to policy increasingly evident. But with this reach comes a new set of responsibilities: to synthesize ever-deepening local insights into global action, to deepen partnerships across disciplines and sectors, and to transform the institutions and norms of knowledge production themselves.

What the field needs now is not simply more distributed coordination, but a transformative and mature infrastructure that can match the complexity, ambition, and urgency of the SES field to address today's sustainability challenges, amid rising political barriers to doing so. SocSES emerges not as a remedy to failure, but as a response to success—a recognition that the SES field has grown into something that now requires new forms of collective organization. The growing number of regional networks, the broadening of epistemologies, and the mainstreaming of SES concepts in policy all point to a field that has matured—but that now needs a platform to weave together its many strands. SocSES aims to provide this connective tissue: a connection point for

diverse networks, curating shared resources, fostering inclusive communities of practice, and enabling cross-scale synthesis without losing contextual richness. It will not replace or control existing networks, but amplify them—weaving together the mycelial networks of the field into a more resilient, visible, and influential whole.

More than a society, SocSES is a commitment: to build a community capable of responding to the profound challenges of the Anthropocene with creativity, humility, and collective strength. The SES field has long offered insights into how systems can adapt and transform. Now, it must do the same—and SocSES has emerged to help make that transformation possible.

We welcome responses to this editorial through *Ecology and Society's* formal commentary process and hope it will spark wider discussion on the future of SES research. For those interested in continuing the conversation, we also invite engagement with SocSES as an evolving space for connection, reflection, and collaboration across the SES community.

[1] We use Anthropocene not as a formally defined geological epoch but as a way to describe the current trajectory of the Earth system, characterized by profound human influence on planetary processes (Steffen et al. 2018).

Acknowledgments:

While this paper has many authors, it reflects the collective thinking of a much broader community, shaped through discussions at meetings and fora spanning nearly a decade. We are grateful to everyone who has contributed to these conversations about a social-ecological systems society over the years. In particular, the development of the Society over the past two years has been deeply informed by discussions at the PECS Working Group Meetings in Stellenbosch and Montreal, the Resilience Alliance (RA) Science Meeting in Bergen, the RA early career professionals short course in Le Baluchon Éco-villégiature, the Garden Route Interface Network Meeting in Knysna, and the PECS-III conference in Montreal. We also sincerely thank the RA and PECS boards for their invaluable contributions to these discussions. Thank you also to John Sanya and Neema R. Kinabo for writing a Swahili translation of the paper abstract, and Hildegunn Opdal for assisting with a Norwegian one, available along with other author translations of the paper's abstract in Appendix 2 and at <http://socses.org/about/paper>. This work was supported by the Social Sciences and Humanities Research Council of Canada (SSHRC) grant 611-2024-0109, the Bieler School of Environment, McGill University, the Future Earth block grant to the Programme for Ecosystem Change and Society, the South African Research Chairs Initiative (SARChI) of the Department of Science and Technology and the National Research Foundation of South Africa (grant 98766), the Resilience Alliance and NSERC ResNet.

Data Availability:

The paper does not contain results based on data or generated through code.

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Appendix 1: Social-Ecological Systems Networks, Journals and Institutes

1. SOCIAL-ECOLOGICAL NETWORKS

SES networks, in a large part through the Communities of Practice (CoPs) they fostered, have advanced the SES field by facilitating conceptual integration, methodological innovation, institutional consolidation, and transdisciplinary collaboration (Manyani 2025; Manyani et al. 2024). They have played a central role in further developing and refining SES concepts, including resilience thinking, adaptive governance, and social-ecological transformations (Fischer et al. 2015). These networks have served as incubators for methodological experimentation, including advancing integrative methods to bridge social and ecological sciences, contributing to frameworks for adaptive management, and building participatory scenario planning and hybrid analytical approaches (Biggs et al. 2023). SES networks have also been instrumental in expanding global collaboration, particularly through regional SES hubs and by serving as connection platforms for SES researchers who are working in organizations without strong SES focal areas. These efforts have helped broaden the geographic and epistemic scope of SES research, fostering greater inclusion of diverse knowledge systems, values and local sustainability challenges (Martín-López et al. 2020). SES networks have also contributed to science-policy integration, for example by shaping the work of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and strengthening the role of place-based sustainability science in decision-making (Fischer et al. 2015, Martín-López et al. 2020). This dynamic was supported by major international funding programs, such as the Belmont Forum, which specifically prioritized transdisciplinary SES collaborations, thus reinforcing the role of these networks in linking research to policy and practice (Mooney et al. 2013).

One of the leading networks for SES research that exemplifies many of these contributions is the Programme for Ecosystem Change and Society (PECS). PECS was created to address key gaps identified by the MA, particularly the need to understand how the dynamics of local social-ecological systems across diverse contexts can inform global sustainability (Carpenter et al. 2009). Launched in 2011 as a ten-year initiative under the International Council for Science, PECS emerged during a transition between major disciplinary global environmental research programs, namely the World Climate Programme, the International Geosphere-

Biosphere Programme (IGBP), DIVERSITAS, and the International Human Dimensions Programme (IHDP) (Carpenter et al. 2009). It became one of the strategies for fostering interdisciplinary research, later integrating into the broader Future Earth Global Research Network in 2014 (Carpenter et al. 2012). The unique features of the PECS design are: 1) a focus on place-based research that is sensitive to local contexts, 2) the importance of inter- and transdisciplinary collaborations to contribute actionable understandings, 3) the creation of a network of research sites to allow for comparative explorations, and 4) the identification of key cross-cutting topics for inter-site comparisons (Carpenter et al. 2012).

Organized as a metacommunity of practice (Biggs et al. 2023), PECS has grown into a highly influential SES network over the past 13 years. Its initiatives include three international conferences which took place in South Africa (2015), Mexico (2017), and Canada (2024), as well as journal special issues (e.g. in *Ecology and Society*, *Global Sustainability*, *Ecosystems & People*), a series of international workshops, and an expanding number of research projects and working groups (Fischer et al. 2015, Balvanera et al. 2017, Norström et al. 2017, 2022). A particularly notable contribution of PECS has been the development of regional networks that foster collaboration on region-specific challenges while also contributing to global SES frameworks through cross-scale synthesis and comparative approaches (Bennett et al. 2021, Biggs et al. 2022, 2023, Calderón-Contreras et al. 2022). These networks have included SAPECS in Southern Africa, LAPECS in Latin America, and NSERC ResNet in Canada. By expanding and deepening the geographic scope of SES research, these networks have helped address - but not resolve - long-standing regional inequities in the field (Biggs et al. 2023, Manyani et al. 2024).

PECS has brought unique conceptual and methodological insights. By advancing and connecting research using multiple methodologies, including participatory methods, social actor engagement, comparative frameworks, and diagnostic approaches, PECS researchers have identified patterns, critical social and ecological dynamics, trade-offs, and feedbacks across varied contexts that generated generalizable insights while retaining contextual relevance (Balvanera et al. 2017, Norström et al. 2022, Bennett et al. 2021). The PECS community has advanced transformative research and the integration of equity, power dynamics, and injustices into traditional SES and resilience frameworks (Norström et al. 2022, Horcea-Milcu et al. 2024). PECS has also fostered the braiding together (Reid et al. 2021) of diverse knowledge systems by intentionally including Indigenous and local

perspectives, tapping into artistic tools towards more meaningful and horizontal collaborations (Balvanera et al. 2025), and encouraging researcher reflexivity, thereby strengthening the transdisciplinary foundations of SES research (Norström et al. 2022).

Beyond the RA and PECS, many other networks have played critical roles in shaping the SES field (Table 1), fostering interdisciplinary collaboration, developing innovative methodologies, and linking SES insights to global sustainability initiatives. For example, the International Long-Term Ecological Research (ILTER) network has advanced social-ecological perspectives in long-term monitoring ([Scholes et al. 2013](#), [Maass et al. 2016](#), [Mirtl et al. 2018](#)), while the Global Resilience Partnership (GRP) has bridged resilience theory and practical, community-based solutions (<https://www.globalresiliencepartnership.org/>). Future Earth, through its platform for global research networks, including the Global Land Programme (GLP) ([Turner et al. 2007](#), [Meyfroidt et al. 2018](#)), the Earth System Governance Project (ESG) ([Rockström et al. 2021](#)), and, of course, PECS (Carpenter et al. 2012, Balvanera et al. 2017, Norström et al. 2017; 2022, Bennett et al. 2021, Biggs et al. 2022;2023, Calderón-Contreras et al. 2022), has catalyzed advancements in understanding land-use dynamics, governance, and planetary boundaries while fostering interdisciplinary collaboration to address sustainability challenges across various overlapping and interacting domains. Synthesis centres like SESYNC and the German Integrative Synthesis Centre (iDiv), though not networks themselves, have been a critical funder and facilitator of international collaborative SES research. Regional networks such as the Satoyama Initiative in Asia-Pacific (Takeuchi 2010, Kozar et al. 2019), the Brazilian Platform on Biodiversity and Ecosystem Services (BPBES) (Scarano 2017), and the Sociedad Chilena de Socioecología y Etnoecología (SoSOEt) have localized SES research, thus integrating traditional knowledge and place-based approaches into broader sustainability efforts. Other thematic regional initiatives, including agroecology networks like the Latin American Scientific Society of Agroecology (SOCLA) and the Agroecology Learning Alliance in Southeast Asia (ALiSEA), have applied SES principles to food security and biodiversity. Meanwhile, the Ecosystem Services Partnership (ESP) (van Oudenhoven et al. 2012) has influenced global policy through diverse ecosystem service research, including advances in ecosystem valuation by TEEB in 2010 and innovations by its young scholar community (YESS).

Table S1. Contributions of key networks (alphabetically listed) to the development of the SES field. We've restricted this list to international networks comprising more than one institute. The list also includes synthesis centres that play an important international network coordination function, even if they are not themselves networks.

Network Name	Contributions to the SES Field	Key References and/or website
ALiSEA (Agroecology Learning Alliance in Southeast Asia)	Advances agroecological practices in Southeast Asia by fostering collaboration, knowledge sharing, and capacity-building among farmers, researchers, and policymakers. ALiSEA connects agroecology with food security and sustainable development goals in the region, emphasizing resilience and equity in agricultural systems.	https://ali-sea.org/
AlterNet	Alternet brings together natural and social science researchers from 21 European countries to integrate understanding of biodiversity, ecosystems and the services they provide to society. Important tools to share SES knowledge is the annual AlterNet Summerschool and conferences. In addition, Alternet aims to create a platform for meaningful communication with policy-makers and the public.	Atienza Casas et al. 2023 https://alterneteurope.eu/about/
African Agroecology Alliance	Promotes agroecology in Africa by supporting research, education, and advocacy for sustainable and equitable food systems. The Alliance emphasizes biodiversity, traditional knowledge, and resilience in agricultural practices, integrating SES principles into its approaches.	https://africanagroecologyalliance.org/
ASCEND Climate Change	Contributes to social-ecological systems research by facilitating interdisciplinary synthesis, capacity-building, and cross-disciplinary collaboration to address climate change impacts on social-ecological resilience.	https://ascendclimate.org/
Global Alliance for the Future of Food	Focuses on transforming global food systems by promoting resilience, sustainability, and equity. The alliance connects agroecology, traditional knowledge, and innovative practices to address challenges like food security and climate change, while fostering global collaborations to advance SES research in agricultural systems.	https://futureoffood.org/

Landscape Europe	Advances integrated landscape research in Europe by connecting ecological, social, and economic dimensions of landscapes. Landscape Europe supports sustainable land management practices and contributes to SES research on landscape-scale sustainability, including biodiversity and ecosystem service trade-offs.	http://www.landscape-europe.net/
CHANS net The International Network of Research on Coupled Human and Natural Systems	Facilitates the communication and collaboration among scholars from around the world who are interested in coupled human and natural systems (e.g., coupled human-environment systems, social-ecological systems, ecological-economic systems, population-environment systems) and who strive to find sustainable solutions that both benefit the environment and enable people to thrive.	Kramer et al. 2017 https://www.canr.msu.edu/chans/
Community Conservation Research Network (CCRN)	Explores community-based conservation and the vital connections between ecosystem health and local livelihoods. Many local and Indigenous communities protect their ecosystems and resources to sustain livelihoods and economies, reflecting the crucial two-way SES connection between community well-being and ecosystem health. CCRN contributes to SES research by providing typologies for community-based approaches and fostering global collaborations.	Charles et al. 2020 https://www.communityconservation.net/
DesertNet International (DNI)	A scientific network dedicated to SES challenges in drylands, linking research on desertification and land degradation to policy frameworks.	desertnet-international.org
Earth Commission	Refines planetary boundaries frameworks by integrating justice and equity considerations. The Commission has advanced actionable science-based targets for sustainability, linking ecological thresholds with societal well-being. As part of the Global Commons Alliance, it bridges science, governance, policy, and practice to safeguard global resources and advance SES-based solutions for sustainability challenges.	Rockström et al. 2021 https://www.earthcommission.org/
Earth System Governance Project (ESG)	Investigates governance dimensions of SES, emphasizing institutional frameworks, power dynamics, and justice. ESG explores planetary boundaries, biodiversity, and climate governance, providing critical insights into SES governance challenges.	https://earthsystemgovernance.net/

Ecosystem Services Partnership (ESP)	Advances the valuation, management, and integration of ecosystem services into policy and decision-making frameworks. ESP fosters interdisciplinary collaboration to address trade-offs, enhance ecosystem service delivery, and provide SES-informed policy tools for managing biodiversity and ecosystem services globally.	Van Oudenhoven et al. 2012 https://www.es-partnership.org/
Future Earth	Facilitates transformative SES research by fostering interdisciplinary collaboration and creating a global platform for sustainability science. It supports initiatives addressing planetary challenges, hosting networks like PECS, GLP, and ESG. Future Earth contributes to SES research by aligning interdisciplinary approaches with international sustainability goals such as the SDGs and Paris Agreement.	https://futureearth.org/
Future Earth Coasts (formerly LOICZ)	A global expert network focused on the sustainability and adaptation of coastal SES, linking research with policy and coastal zone management. futureearthcoasts.org	futureearthcoasts.org
German Centre for Integrative Biodiversity Research (iDiv)	The German Centre for Integrative Biodiversity Research (iDiv), through its sDiv programme, has supported SES research by facilitating interdisciplinary synthesis working groups that integrate biodiversity, ecosystem services, and social-ecological resilience. By providing a platform for global collaboration, comparative analyses, and methodological advancements, sDiv has strengthened SES research networks and fostered cross-disciplinary exchange.	https://www.idiv.de/
Global Land Programme (GLP)	Addresses critical sustainability challenges by analyzing land use and land cover change, emphasizing cross-scale feedbacks, trade-offs, and telecoupling processes. GLP provides policy-relevant tools like scenarios and modeling, significantly contributing to SES research and global sustainability initiatives such as IPBES and the UNCCD.	Turner et al. 2007, Meyfroidt et al. 2018 https://glp.earth/
Global Landscapes Forum (GLF)	A multi-stakeholder knowledge platform promoting SES-based land-use governance, sustainable landscapes, and policy-research integration.	globallandscapesforum.org
Global Ocean Observing System (GOOS)	Integrates SES perspectives into marine and coastal research, advancing global monitoring systems and promoting sustainable ocean management. GOOS contributes to sustainability initiatives like the UN Decade of Ocean Science and supports SES research by connecting ecological monitoring with policy-relevant marine governance strategies.	https://goosocean.org/

Global Resilience Partnership (GRP)	Advances resilience thinking by bridging academic insights with practical community-based solutions for climate adaptation and sustainable development. GRP emphasizes equity and local capacity-building, contributing to global initiatives such as the UNCCD and UNFCCC. It applies SES-based approaches to align resilience strategies with policy and practice.	https://www.globalresiliencepartnership.org/
International Association for the Study of the Commons (IASC)	A global network advancing knowledge on common-pool resources, institutions for collective resource management, and governance of social-ecological systems.	iasc-commons.org
International Association of Society and Natural Resources (IASNR)	Owens and manages the journal <i>Society and Natural Resources</i> . IASNR fosters SES research on governance, collective action, and social dynamics. Originating from the US land grant model, it now connects international hubs and hosts conferences advancing SES themes, including equity, justice, and sustainable resource management.	Sherren et al. 2024 https://www.iasnr.org/
International Forestry Resources and Institutions Network (IFRI)	A global research network studying the governance and institutional factors that shape forest sustainability and community-based resource management.	ifriresearch.net
International Long-Term Ecological Research (ILTER)	Advanced SES integration into long-term ecological monitoring. Established in 1993, ILTER generated invaluable datasets on slow and fast variables, thresholds, and feedback loops. Collaborations with PECS have combined ecological data with transdisciplinary frameworks, advancing SES research across diverse global contexts. ILTER has significantly contributed to understanding long-term dynamics in social-ecological systems, fostering global-scale synthesis and comparative studies. As an example, the US Long-Term Ecological Research network, established in 1980 as six original sites funded by the US National Science Foundation, in 1997 expanded its portfolio of sites from supposed “pristine” sites to include two urban sites, Central Arizona–Phoenix (CAP) and Baltimore Ecosystem Study (BES). Work at these human-dominated SES brought to the LTER network the urgency of considering the interaction of social and ecological processes as crucial to understanding long-term dynamics in all ecosystems. A major effort of the network produced a landmark concept paper for long-term SES research.	Grimm et al. 2000, Collins et al. 2011, Scholes et al. 2013, Maass et al. 2016, Mirtl et al. 2018 https://www.ilternet.edu/
Mountain Partnership	A multi-stakeholder platform supporting sustainable mountain development and promoting SES research in highland environments.	fao.org/mountain-partnership

Mountain Research Initiative (MRI)	Applies SES principles to sustainable mountain development, fostering international collaboration on biodiversity, climate adaptation, and socio-economic challenges. MRI emphasizes transdisciplinary approaches and comparative studies to address SES-specific issues in mountain regions.	Gleeson et al. 2016 https://mountainresearchinitiative.org/
NATURA Network	The Nature-based Solutions for Urban Resilience in the Anthropocene (NATURA) project links networks in Africa, Asia-Pacific, Europe, North and Latin America, and globally. NATURA exchanges knowledge, shares data, and enhances communication among research disciplines and across the research-practice divide to advance urban resilience in face of growing threats of extreme weather events.	https://natura-net.org/
Programme for Ecosystem Change and Society (PECS)	Focuses on place-based, inter- and transdisciplinary SES research, addressing local-global dynamics. PECS has expanded SES research by establishing regional networks like SAPECS, LAPECS, and ResNet. It contributes transformative insights on equity, sustainability, and scaling SES solutions globally. Regional networks such as SAPECS, LAPECS, and ResNet have localized research to address region-specific challenges while contributing to global SES frameworks through synthesis and comparative approaches.	Carpenter et al. 2012, Balvanera et al. 2017, Norström et al. 2017, 2022, Bennett et al. 2021, Biggs et al. 2022, 2023, Calderón-Contreras et al. 2022 https://pecs-science.org/
Resilience Alliance	An international, multidisciplinary research organization that explores the dynamics of social-ecological systems. RA members collaborate across disciplines to advance the understanding and practical application of resilience, adaptive capacity, and transformation of societies and ecosystems in order to cope with change and support human well-being.	Walker et al. 2004, 2006, Resilience Alliance 2010, Biggs et al. 2012, Folke et al. 2016 https://www.resalliance.org/
Satoyama Initiative	Harmonizes traditional ecological knowledge with modern science to manage production landscapes sustainably. The initiative focuses on biodiversity, ecosystem services, and community well-being in the Asia-Pacific region, connecting SES research with regional practices and policies. It has significantly contributed to understanding the role of social-ecological production landscapes and the integration of traditional and scientific knowledge systems to support biodiversity and human well-being.	Takeuchi 2010, Kozar et al. 2019 https://satoyama-initiative.org/
Seeds of Good Anthropocenes	A global collaboration identifying small-scale social-ecological initiatives ("seeds") that provide insights on pathways toward more just and sustainable futures.	goodanthropocenes.net

SESYNC (National Socio- Environmental Synthesis Center)	Advances SES research by fostering team-based, interdisciplinary collaboration to address complex socio-environmental challenges. SESYNC has advanced novel methodologies in modeling and synthesis research, offering a platform for diverse researchers to co-produce actionable knowledge. Its focus on building interdisciplinary teams has contributed significantly to the development of SES-based solutions in both research and practice.	Levin et al. 2013, Palmer et al. 2016, Schlüter et al. 2019 https://www.sesync.org/
SOCLA (Latin American Scientific Society of Agroecology)	Applies SES principles to agroecology, focusing on equity, biodiversity, and sustainable food systems. SOCLA connects agroecological practices with policy advocacy and education across Latin America, providing a platform for researchers and practitioners to collaborate on agroecological innovations.	Bennett et al. 2021 https://socla.co/
SoSoet Sociedad Chilena de Socioecología y Etnoecología (SoSoet)	Fosters interdisciplinary collaboration in Latin America. It advances socio-ecological research, education, and practice for sustainability transitions, focusing on regional needs and challenges.	https://www.sosoet.cl/
TARA (Transformative Adaptation Research Alliance)	Connects researchers and practitioners dedicated to the development and implementation of novel approaches to transformative adaptation to global change	Colloff et al. 2016 https://research.csiro.au/ara/
Transformations Community	Explores systemic SES changes, linking social justice and equity to sustainability transitions. The network promotes interdisciplinary methods to address complex societal challenges, engages policymakers, and fosters global learning on transformative change processes. It has been pivotal in advancing methodologies for SES research that integrate social justice and equity while addressing sustainability transitions.	O'Brien and Sygna 2013 https://transformationscommunity.org/
Urban Resilience to Extremes Sustainability Research Network (UREx SRN)	The Urban Resilience to Extremes Sustainability Research Network (UREx SRN) focuses on integrating social, ecological, and technical systems to devise, analyze, and support urban infrastructure decisions in the face of climatic uncertainty.	https://sustainability-innovation.asu.edu/urban-resilience/
USGS Powell Centre	The Powell Center serves as a catalyst for innovative thinking in Earth system science research by providing the time, creative space, & computational, data manipulation & data management resources to promote synthesis of existing information leading to emergent Earth System science knowledge.	https://www.usgs.gov/centers/john-wesley-powell-center-for-analysis-and-synthesis/about

Network for Transdisciplinary Research	The TD-Net connects researchers to other knowledge communities thereby promoting interdisciplinarity and collaboration between science and society. It provides guidance, tools and methods to support transdisciplinary research.	Hirsch Hadorn et al. 2008 https://transdisciplinarity.ch/en
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2. TABLE OF JOURNALS

Table S2 Some key publishing platforms for social-ecological systems research

Name	Type of SES Research Published	Website
Ecology & Society	Publishes interdisciplinary SES research on resilience, governance, adaptation, and transformations, with a strong emphasis on participatory approaches and knowledge co-production.	https://www.ecologyandsociety.org/
People & Nature	Explores the interactions between people and nature, integrating diverse disciplinary perspectives on human-nature relationships and sustainability.	https://besjournals.onlinelibrary.wiley.com/journal/25758314
Ecosystems and People	Focuses on ecosystem services, social-ecological resilience, and sustainability, emphasizing actionable and policy-relevant research.	https://www.tandfonline.com/journals/tbsm21
AMBIO	Covers human-environment interactions, sustainability science, and policy dimensions of global environmental change.	https://www.springer.com/journal/13280
Global Environmental Change	Examines human and policy responses to environmental change, including SES governance, justice, and equity.	https://www.journals.elsevier.com/global-environmental-change

Current Opinion in Environmental Sustainability	Publishes review articles on key sustainability issues, integrating SES research across disciplines.	https://www.journals.elsevier.com/current-opinion-in-environmental-sustainability
Biological Conservation	Covers biodiversity conservation, ecosystem management, and SES approaches to conservation governance.	https://www.journals.elsevier.com/biological-conservation
Conservation Biology	Explores conservation science and practice, including SES approaches to resilience and adaptive management.	https://conbio.onlinelibrary.wiley.com/journal/15231739
Conservation Letters	Publishes concise, high-impact research on conservation and sustainability, integrating SES frameworks.	https://conbio.onlinelibrary.wiley.com/journal/1755263x
Society & Natural Resources	Focuses on human-environment interactions, resource governance, and sustainability policy.	https://www.tandfonline.com/journals/usnr20
Nature Sustainability	Covers interdisciplinary sustainability science, with a focus on SES research and policy solutions.	https://www.nature.com/natsustain/
One Earth	Publishes research on sustainability and environmental change, integrating SES perspectives on adaptation and resilience.	https://www.cell.com/one-earth/home
Earth Stewardship	Explores the responsible management of ecosystems, linking SES research to governance and stewardship.	https://www.springer.com/journal/42273

Earth System Governance	Addresses governance processes and institutions at all levels of decision-making - from local to global - within a planetary perspective that seeks to align our current institutions and governance systems with the fundamental 21st century challenges of global environmental change and earth-system transformation.	https://www.sciencedirect.com/journal/earth-system-governance/about/aims-and-scope
Global Sustainability	Examines global sustainability challenges, integrating SES concepts and policy-relevant research.	https://www.cambridge.org/core/journals/global-sustainability
Sustainability Science	Focuses on transdisciplinary research addressing sustainability challenges through SES perspectives.	https://www.springer.com/journal/11625
Land Use Policy	Investigates socio-economic and ecological aspects of land use change within SES contexts.	https://www.journals.elsevier.com/land-use-policy
Environmental Research Letters	Covers environmental science, including SES research on adaptation, governance, and social-ecological change.	https://iopscience.iop.org/journal/1748-9326
Agriculture, Ecosystems & Environment	Publishes research on agroecology, land management, and social-ecological interactions in agricultural systems.	https://www.journals.elsevier.com/agriculture-ecosystems-and-environment
Journal of African Ecology	Focuses on ecological research in African ecosystems, including SES studies on conservation and resource management.	https://onlinelibrary.wiley.com/journal/13652028
Koedoe	Publishes SES research on biodiversity conservation and protected areas in Africa.	https://koedoe.co.za/

FACETS	Canada's multidisciplinary science journal, covering SES research on environmental and social sustainability.	https://www.facetsjournal.com/
Ecología Austral	Latin American journal publishing SES studies on ecological and social-ecological dynamics.	https://ojs.ecologiaaustral.com.ar/
Ambiente & Sociedade	Explores environment-society interactions, with a focus on SES research in Latin America.	https://www.scielo.br/journal/asoc/
Forest and Society	Publishes SES research on forestry, land governance, and community resource management in Asia.	https://journal.unhas.ac.id/index.php/fs
Regional Environmental Change	Covers regional environmental change, SES resilience, and place-based sustainability science.	https://www.springer.com/journal/10113
Landscape Ecology	Draws together expertise from both biophysical and socioeconomic sciences to explore basic and applied research questions concerning the ecology, conservation, management, design/planning, and sustainability of landscapes as coupled human-environment systems	https://link.springer.com/journal/10980
World Development	Examines SES research on development, equity, justice, and social-ecological resilience.	https://www.journals.elsevier.com/world-development

3. INSTITUTES ENGAGED IN SOCIAL-ECOLOGICAL SYSTEMS WORK

As SES networks and communities of practice have expanded, the need for dedicated spaces for synthesis, transdisciplinary research, engagement, and sustained collaboration has led to the formation of SES-focused institutes (Manyani 2025). These institutes have played a fundamental role in shaping the field, strengthening research networks, stabilizing funding, and fostering collaborations between scholars, practitioners, and policymakers (Biggs et al. 2023; Folke et al. 2016, Manyani et al. 2024, Manyani 2025). While some are housed within

universities, others operate as independent or semi-autonomous organizations, facilitating transdisciplinary research and acting as key boundary institutions that link science, policy, and practice (Manyani et al. 2024). Many SES institutes have provided institutional homes for key SES research networks, offering stable bases for global and regional collaborations. For example, the Stockholm Resilience Centre at Stockholm University (Folke et al. 2016, Norström et al. 2022), Stellenbosch University (Biggs et al. 2023), Arizona State University, and McGill University (Bennett et al. 2021) have each hosted major SES networks, including the Resilience Alliance, the Global Resilience Partnership, the Programme on Ecosystem Change and Society (PECS), SAPECS, the Urban Resilience to Extremes Sustainability Research Network, and ResNet. By providing institutional legitimacy, funding stability, and physical spaces for research, SES institutes have helped transform informal research communities into enduring academic and policy-oriented collaborations (Manyani 2025).

Graduate and Undergraduate Training Programmes

Although a diversity of SES institutes have contributed through applied research, policy engagement, and community-based initiatives (an interactive map can be found [here](#)), a core focus of many institutes has been the establishment of structured training programmes that integrate systems thinking, resilience theory, and inter- and transdisciplinary methodologies (Takeuchi 2010, Lang et al. 2012).

In the Global South, SES education has often been embedded within broader sustainability and environmental management programs rather than standalone SES institutes, reflecting both funding constraints and the need to align with national development priorities (Manyani et al. 2024). In this context, institutions across Latin America, Africa, and Asia have played a significant role in advancing SES training through interdisciplinary and applied approaches. For example, the National Autonomous University of Mexico (UNAM) and the University of Campinas (UNICAMP) in Brazil have developed interdisciplinary graduate programs that integrate SES principles into research on biodiversity conservation, ecosystem services, and community-based resource management (Manyani et al. 2024). In South Africa, Rhodes University was one of the first institutions to establish a dedicated SES-focused undergraduate programme (Manyani 2025), whilst Stellenbosch University has functioned as a key African graduate training hub, with programmes sustained through international collaborations and externally funded research projects (Biggs et al. 2023).

In the Global North, SES education has often been institutionalized within dedicated research centers, benefiting from early long-term investments in sustainability science and interdisciplinary training (Folke et al. 2016, Manyani 2025). The Stockholm Resilience Centre at Stockholm University has been particularly influential, developing globally recognized master's and PhD programs that have trained generations of SES scholars, many of whom now lead SES research initiatives worldwide (Folke et al. 2016). Other institutions have also played key roles in shaping SES education by advancing structured, transdisciplinary graduate programs that integrate social-ecological research with applied sustainability challenges. Some early SES institutes include (but are not limited to) the Social-Ecological Systems Institute at Leuphana University (Germany), the Fenner School of Environment and Society at Australian National University (Boyden 2016), the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) in Japan, the School of Sustainability Science at Arizona State University, and the University of Manitoba, Brock University, University of Waterloo and McGill University in Canada.

Independent social-ecological institutes and non-degree training programmes

Outside of Universities, independent SES institutes and policy-oriented research organizations have also played a pivotal role in advancing SES research and its application. Centers such as the South American Institute for Resilience and Sustainability Studies (SARAS) in Uruguay, the Ashoka Trust for Research in Ecology and the Environment (ATREE) in India, and the Humboldt Institute in Colombia have fostered regional SES research initiatives, integrating Indigenous and local knowledge systems into transdisciplinary sustainability science (Manyani et al. 2024). Similarly, the Beijer Institute of Ecological Economics has contributed to SES scholarship by facilitating high-level research collaborations between economists and ecologists. Many of these institutes serve as critical intermediaries between science and policy, hosting international dialogues, supporting policy advisory processes, and shaping decision-making frameworks through SES-based governance approaches (Manyani 2025).

Beyond formal academic programs, SES networks and institutes have significantly contributed to SES-focused training through summer schools, short courses, and executive programs. SES summer schools – including those run by the RA, SAPECS, the Beijer Institute, the São Paulo School of Advanced Science on Transdisciplinarity for Transformative Change in Brazil, the AlterNet Summer School in Peyresq, and the STEPS

(Social, Technological and Environmental Pathways to Sustainability) Centre Summer School, as well as cross-institutional programs like the Training Interdisciplinary Leaders for Sustainability Science (TILL) program and the International Graduate School (IGS) North-South summer school – have all played a pivotal role in training early-career researchers and practitioners, emphasizing problem-based and transdisciplinary approaches to SES (Supplementary Materials). SES networks and institutes have also developed targeted training for practitioners, bridging science and application through short courses like those run by the Global Resilience Partnership and WAVES (Wealth Accounting and the Valuation of Ecosystem Services), which apply SES frameworks to resilience thinking, adaptive governance, and natural capital accounting. Similarly, the Earth System Governance project and the Satoyama Initiative train policymakers and community leaders to integrate SES research into governance and management (Kozar et al. 2019), whilst the Stockholm Resilience Centre’s Executive Training Programme have equipped global leaders with SES tools to tackle sustainability challenges in their organizations and networks. These programs complement traditional curricula (Rosenberg et al. 2024) by providing theoretical foundations, practical skills, and hands-on transdisciplinary learning while fostering academic collaborations, strengthening science-policy engagement, and equipping researchers, practitioners, and decision-makers with SES tools to address real-world sustainability challenges (Folke et al. 2016, Manyani et al. 2024, Rosenberg et al. 2024).

Table S3 Institutes Engaged in Social-Ecological Research and Practice. These can also be explored as [an interactive map](#).

Institute Name	Country	Description	Website
African Climate and Development Initiative (ACDI), University of Cape Town	South Africa	ACDI is a leading research hub focused on climate adaptation, resilience, and sustainable development. It integrates social-ecological systems research with policy and practice, offering interdisciplinary graduate programs and capacity-building initiatives.	https://acdi.uct.ac.za/
Ashoka Trust for Research in Ecology and the	India	Ashoka Trust for Research in Ecology and the Environment (ATREE) is a globally recognised non-profit organisation focused on environmental conservation and sustainable, socially just development based in Bangalore India. ATREE	https://www.atree.org/

Environment (ATREE)		engages in the generation and dissemination of rigorous interdisciplinary knowledge that informs and is informed by the needs of grassroots communities, policymakers and the wider public. It prioritises capacity-building for producing the next generation of scholars and leaders	
Australian National University (Fenner School)	Australia	SES education emphasizing systems thinking and resilience, shaping SES pedagogy and practice.SES research in ecology, social systems, and resilience-based sustainability science.	https://fennerschool.anu.edu.au/
Bieler School of Environment, McGill University	Canada	A multidisciplinary hub for SES research focusing on climate change, biodiversity, and sustainability transitions. Offers innovative sustainability education programs.Leadership in the ResNet program.	https://www.mcgill.ca/environment/
University of Wisconsin-Madison	USA	The University of Wisconsin-Madison provides a uniquely supportive institutional environment for SES research, characterized by low disciplinary boundaries and strong interdisciplinary collaboration. The university has long fostered innovative SES work across departments such as Sociology, Economics, Integrative Biology, Agronomy, Civil Engineering, and Forestry.	https://www.wisc.edu/
Center for Resilience in Agricultural Working Landscapes, University of Nebraska-Lincoln	USA	Researches SES resilience in agricultural systems, soil health, and water resource sustainability.	https://crwal.unl.edu/
Center for Resilience in Working Agricultural Landscapes, University of Nebraska - Lincoln	USA	Focuses on SES research in agricultural systems, integrating climate adaptation, water sustainability, and socio-ecological resilience.	https://crwal.unl.edu/

Center of Applied Ecology and Sustainability (CAPES), Pontificia Universidad Catolica de Chile	Chile	CAPES promotes interdisciplinary studies on biodiversity and sustainability policy. This university plays a pivotal role in SES research in Latin America, integrating climate adaptation, conservation, and sustainable development. It leads projects on ecosystem services, community-based conservation, and socio-ecological resilience. It offers graduate programs in sustainability science and collaborates with regional and global networks to enhance transdisciplinary SES education.	https://www.capes.cl/
Centre for Sustainability Transitions (CST)	South Africa	Leading SES hub in Africa; hosts SAPECS and PECS International Programme Office, contributing to SES dialogues. Research leaders on social-ecological resilience and transformations	https://www0.sun.ac.za/cst/
Coastal Social-Ecological Millennium Institute (SECOS)	Chile	SES research on coastal resilience, fisheries, and sustainability governance.	https://socioecologiacostera.cl/en/about-us/coastal-social-ecological-millennium-institute-secos/
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	Australia	CSIRO is Australia's premier scientific research agency, driving innovation in climate adaptation, ecosystem management, and sustainable development. It plays a key role in SES research through its land, water, and climate programs. CSIRO provides research training opportunities and partnerships with universities, industries, and policymakers to apply cutting-edge science to environmental and social challenges.	https://www.csiro.au/
Conservation Initiatives	India	Conservation Initiatives is a research-driven organization focusing on biodiversity conservation, ecosystem services, and community-based natural resource management. It conducts interdisciplinary research, policy engagement, and capacity-building initiatives to strengthen conservation efforts in India.	https://www.conservaioninitiatives.org/
Council for Scientific and Industrial	South Africa	CSIR is a multidisciplinary research institution focusing on environmental sustainability, biodiversity conservation, and water security. It supports SES research by integrating ecological,	https://www.csir.co.za/

Research (CSIR)		technological, and social innovations to enhance resilience in African landscapes. CSIR also provides postgraduate training, research internships, and policy engagement on sustainable resource management.	
Department of Biological Sciences, University of Bergen	Norway	SES research on marine and coastal resilience, ecosystem-based management, and Arctic sustainability.	https://www.uib.no/en/bio
Department of Biology and Geology, Andalusian Center for Global Change (ENGLOBA), University of Almería	Spain	Researches SES under climate change, ecosystem-based adaptation, and sustainable land management.	https://www.ual.es/en/
Department of Community Sustainability, Michigan State University	USA	Conducts SES research on rural development, natural resource governance, and climate resilience. Offers undergraduate and graduate programs in sustainability.	https://www.canr.msu.edu/csus/
Earth Institute, Columbia University	USA	Broad sustainability and SES research, integrating climate, ecosystems, and social sciences.	https://www.earth.columbia.edu/
Environmental Education Centre, Rhodes University	South Africa	A leader in SES education, this center advances sustainability learning and transformative environmental education. It offers training programs for educators, researchers, and practitioners, focusing on socio-ecological resilience and sustainability transitions.	https://www.ru.ac.za/elrc/
Environmental Studies and Research	Brazil	NEPAM has over 35 years of experience in social-ecological systems research, hosting the interdisciplinary Ph.D. Program in Environment	https://www.nepam.unicamp.br/

Centre (NEPAM), Universidade Estadual de Campinas (Unicamp)		and Society for over 20 years. In 2024, NEPAM hosted the São Paulo School of Advanced Science (SPSAS) on Transdisciplinarity for Transformative Change involving 80 young scientists from 30 countries to address social-ecological problems. (https://www.nepam.unicamp.br/spsas-transdisciplinarity/)	
Environmental Sustainability Research Centre, Brock University	Canada	Advances sustainability through transformative research, teaching, and community engagement. The ESRC engages transdisciplinary approaches to understanding and managing interactions between social and ecological systems, including reconciling conservation and sustainable use, and approaches that support equitable and just transformations. Linked to the ResNet project.	https://brocku.ca/esrc/
Facultad de Ciencias Forestales y Conservación de la Naturaleza, Universidad de Chile	Chile	Conducts SES research on forest conservation, land-use change, and ecosystem management. Offers graduate training in sustainability and environmental governance.	https://www.fcfcyn.uchile.cl/
Faculty of Biological and Environmental Sciences & Helsinki Institute of Sustainability Science (HELSUS), University of Helsinki	Finland	Leads SES research in Northern Europe, focusing on biodiversity, ecosystem resilience, and climate adaptation. Offers graduate programs in sustainability science.	https://www.helsinki.fi/en/helsinki-institute-of-sustainability-science-helsus
Forests and Societies, Cirad, Univ Montpellier	France	Research on forest SES, tropical forest conservation and management, and nature-based solutions. Engages in policy-oriented research on sustainable land management.	https://ur-forets-societes.cirad.fr/en

German Centre for Integrative Biodiversity Research (iDiv)	Germany	The German Centre for Integrative Biodiversity Research (iDiv), through its sDiv programme, has supported SES research by facilitating interdisciplinary synthesis working groups that integrate biodiversity, ecosystem services, and social-ecological resilience. By providing a platform for global collaboration, comparative analyses, and methodological advancements, sDiv has strengthened SES research networks and fostered cross-disciplinary exchange.	https://www.idiv.de/
Global Change Institute, University of the Witwatersrand	South Africa	A leading SES research centre in Africa, the Global Change Institute conducts interdisciplinary research on climate change, biodiversity, socio-ecological resilience, and sustainable development. It provides training for early-career researchers, engages in transdisciplinary projects, and collaborates with international sustainability networks to bridge science, policy, and practice.	https://www.wits.ac.za/gci/
Gund Institute for Environment, University of Vermont	USA	SES research on ecological economics, ecosystem services, and sustainability science.	https://www.uvm.edu/gund
Humboldt Institute	Colombia	SES research integrating Indigenous and local knowledge into conservation and sustainability initiatives.	https://www.humboldt.org.co/
INBO (Research Institute for Nature and Forest)	Belgium	SES research on biodiversity conservation, ecosystem services, and climate adaptation. Provides scientific expertise for environmental policy.	https://www.inbo.be/en
Institute for Global Environmental Strategies (IGES)	Japan	IGES conducts SES research on sustainability transitions, climate change adaptation, and ecosystem-based management. It works with policymakers and researchers to develop integrated strategies for social-ecological resilience in Asia.	https://www.iges.or.jp/en/
Institute for Social-Ecological	Germany	ISOE is one of the leading independent institutes for sustainability research for over 30 years, developing scientific bases and future oriented	https://www.isoe.de/en/

Research (ISOE)		concepts for politics, civil society and the economy – regionally, nationally and internationally.	
Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences	China	A leading research institute advancing SES research on land use, environmental sustainability, and resource management. It integrates geographic sciences, remote sensing, and spatial analysis to support sustainable development in China and globally.	http://english.igsnr.ac.cn/
Institute of Geography, University of Bern	Switzerland	A key European center for SES research, the University of Bern specializes in socio-ecological resilience, adaptation, and transdisciplinary sustainability science. It has research initiatives on mountain ecosystems, climate change, and conservation governance. The university offers interdisciplinary master's and PhD programs linking environmental science with policy and practice.	https://www.geography.unibe.ch/
Instituto de Investigacion es en Ecosistemas y Sustentabilidad, Universidad Nacional Autonoma de Mexico	Mexico	Interdisciplinary SES programs and transdisciplinary projects emphasizing biodiversity, ecosystem services, and community-based approaches. Strong focus on integrating local knowledge and interdisciplinary methods into its academic programs.	https://www.iies.unam.mx/
International Centre for Integrated Mountain Development (ICIMOD)	Nepal	SES research on Himalayan sustainability, climate adaptation, and transboundary water governance.	https://www.icimod.org/
International Institute for Applied Systems	Austria	IIASA is a globally recognized institute advancing SES research through systems analysis, policy modeling, and scenario planning. It addresses challenges like climate adaptation, energy	https://iiasa.ac.at/

Analysis (IIASA)		transitions, and land-use governance. IIASA offers postdoctoral fellowships, doctoral programs, and summer schools for young researchers engaged in sustainability science.	
James Cook University	Australia	James Cook University is a leader in SES research on tropical ecosystems, marine resilience, and environmental governance. It houses the ARC Centre of Excellence for Coral Reef Studies and runs programs on biodiversity conservation, Indigenous knowledge, and climate adaptation. The university provides master's and PhD training in environmental sustainability, resilience, and marine science.	https://www.jcu.edu.au/
Leiden University, Cultural Anthropology and Development Sociology	Netherlands	Research on human-environment interactions, Indigenous SES knowledge, and socio-ecological transformations.	https://www.universiteit.leiden.nl/en/social-sciences/cultural-anthropology-and-development-sociology
Liverpool John Moores University	UK	SES research on urban resilience, conservation strategies, and sustainability policy.	https://www.ljmu.ac.uk/
Luxembourg Centre for Socio-Environmental Research (LCSES)	Luxembourg	A leading hub for socio-environmental research, LCSES at the University of Luxembourg integrates environmental and social sciences to address sustainability challenges. The centre develops innovative interdisciplinary approaches to governance, resilience, and human-environment interactions. It collaborates with European and international partners to produce policy-relevant research and offers graduate training programs in environmental sustainability.	https://www.uni.lu/en/lcses/
Marine Research Institute (Ma-RIS), University of Cape Town	South Africa	Ma-RIS conducts interdisciplinary SES research on marine and coastal systems, fisheries sustainability, ocean governance, and climate change impacts. It collaborates with policymakers, coastal communities, and international networks to advance marine conservation.	https://science.uct.ac.za/maris

Michigan State University	USA	Integrates SES research across land use, resilience, and community sustainability. Houses the Center for Systems Integration and Sustainability.	https://www.msu.edu/
National Socio-Environmental Synthesis Center (SESYNC)	USA	Interdisciplinary SES synthesis research, integrating ecologists, social scientists, and policymakers.	https://www.sesync.org/
Natural Capital Project, Stanford University	USA	SES research on valuing ecosystem services and integrating nature into decision-making.	https://naturalcapitalproject.stanford.edu/
Northern Arizona University, School of Earth and Sustainability	USA	The School of Earth and Sustainability at Northern Arizona University integrates SES research with climate resilience, Indigenous resource governance, and sustainability science. It offers interdisciplinary graduate programs and collaborates with regional conservation initiatives.	https://nau.edu/ses/
Oceans Institute, University of Western Australia	Australia	SES research on marine conservation, ocean governance, and fisheries sustainability. Works closely with policymakers to develop solutions for ocean resilience.	https://www.uwa.edu.au/institutes/oceans
Ostrom Workshop, Indiana University	USA	Leading SES research institute on commons governance and institutions.	https://ostromworkshop.indiana.edu/
Potsdam Institute for Climate Impact Research (PIK)	Germany	Advances interdisciplinary climate impact research, contributing to SES by developing knowledge and solutions for global sustainability and a just climate future. PIK connects biophysical and social systems research to inform SES-based policies and practices.	https://www.pik-potsdam.de/en
Research Institute for Humanity and Nature (RIHN)	Japan	Interdisciplinary SES research integrating science, culture, and policy for sustainability.	https://www.chikyuu.ac.jp/

Rhodes University, Department of Environmental Science	South Africa	One of Africa's first academic departments dedicated to SES, Rhodes University integrates ecological sustainability, land use, and integrated conservation management. It provides specialized undergraduate and graduate programs in social-ecological resilience, natural resource governance, and sustainability transitions.	https://www.ru.ac.za/environmentalscience/
Santa Fe Institute (SFI)	USA	A world-renowned hub for complex adaptive systems research, SFI applies complexity science to SES, resilience theory, and sustainability transitions. It develops cutting-edge methodologies for modeling socio-ecological dynamics and provides advanced training through workshops, summer schools, and fellowships for interdisciplinary scholars.	https://www.santafe.edu/
School for Resource and Environmental Studies, Dalhousie University	Canada	SES research on environmental policy, climate adaptation, and natural resource governance. Provides interdisciplinary graduate training in sustainability science. Linked to the ResNet Project.	https://www.dal.ca/faculty/management/sres.html
School of Sustainability, Arizona State University	USA	One of the first dedicated schools for SES research, focusing on urban resilience, governance, and sustainability transitions. Offers undergraduate, master's, and PhD programs in sustainability science.	https://sos.asu.edu/
Simon Fraser University	Canada	Simon Fraser University is home to SES research initiatives focused on environmental governance, biodiversity conservation, and urban resilience. It offers graduate programs in sustainability and engages in transdisciplinary research on social-ecological change.	https://www.sfu.ca/
Social-Ecological Systems Institute (SESI), Leuphana University	Germany	Interdisciplinary and transdisciplinary SES research with a focus on sustainability challenges and governance.	https://www.leuphana.de/en/research-centers/sesi.html

South African National Parks (SANParks)	South Africa	SANParks integrates SES research into conservation planning and adaptive management. It manages South Africa's national parks, supporting biodiversity conservation, ecological monitoring, and community-based sustainability initiatives.	https://www.sanparks.org/
South American Institute for Resilience and Sustainability Studies (SARAS)	Uruguay	Advances SES research in Latin America through innovative arts-science collaborations, interdisciplinary studies, and transformative research. SARAS has fostered knowledge exchange, developed diagnostic tools, and influenced regional policies on sustainability while continuing to build regional research capacity. Its contributions also include innovative interdisciplinary approaches to resilience and sustainability, emphasizing the role of cultural and artistic perspectives in SES.	https://www.saras-institute.org/
Stanford University	USA	Stanford integrates SES research across multiple disciplines, focusing on sustainability science, ecosystem services, and environmental policy. Its Natural Capital Project and Woods Institute for the Environment advanced applied SES methodologies. Stanford offers graduate and executive education programs in resilience, conservation finance, and adaptive governance.	https://sustainability.stanford.edu/
Stellenbosch University	South Africa	Leading SES hub in Africa; hosts SAPECS and PECS International Programme Office, contributing to SES dialogues.	https://www.sun.ac.za/
Stockholm Resilience Centre (SRC)	Sweden	Transdisciplinary research on resilience, SES governance, ecosystem services, and sustainability.	https://www.stockholmresilience.org/
Sustainability Research Unit, Nelson Mandela University	South Africa	The Sustainability Research Unit conducts SES research on coastal sustainability, ecosystem services, and transdisciplinary problem-solving. It collaborates with policymakers and local communities to promote resilience-based management.	https://sru.mandela.ac.za/
Telug University, Montreal	Canada	Focuses on SES research in remote and Indigenous communities, sustainability education, and ecosystem services.	https://www.telug.ca/

Thünen Institute of Baltic Sea Fisheries	Germany	SES research on marine resource management, sustainable fisheries, and ocean governance in the Baltic Sea region.	https://www.thuenen.de/en/of/
UFZ Helmholtz Centre for Environmental Research	Germany	UFZ is one of Europe's leading environmental research institutes, advancing SES knowledge on land use, water management, and biodiversity conservation. It employs interdisciplinary approaches to integrate ecological, economic, and social dimensions of sustainability. UFZ provides doctoral training, sustainability research fellowships, and large-scale European collaborations on resilience and governance.	https://www.ufz.de/
United Nations University, Institute for the Advanced Study of Sustainability	Japan	SES research on sustainability, resilience, and adaptive management in global change contexts.	https://ias.unu.edu/en/
Universidad Autónoma Metropolitana a Cuajimalpa	Mexico	Research on sustainability, urban SES, and environmental justice. UAM Cuajimalpa has two relevant laboratories, one on Socio-Territorial Studies (LAST), developing research on spatial analysis and statistics, and another one on Cities in Transitions (LABCiT), dealing with future studies, Transformative Change in Social Ecological Systems, Food and Urban systems, and social ecological resilience.	https://www.cua.uam.mx/
University of British Columbia	Canada	UBC is a global leader in SES research, focusing on sustainability science, ecosystem-based management, and urban resilience. It leads SES education through its Institute for Resources, Environment, and Sustainability (IRES) and offers graduate training in climate adaptation, Indigenous knowledge systems, and resilience-based planning.	https://www.ubc.ca/
Environment and Research Centre	Brazil	NEPAM has over 35 years of experience in social-ecological systems research, hosting the interdisciplinary Ph.D. Program in Environment and Society for over 20 years. In 2024, NEPAM	https://www.nepam.unicamp.br/

(NEPAM), Universidade Estadual de Campinas (Unicamp)		hosted the São Paulo School of Advanced Science (SPSAS) on Transdisciplinarity for Transformative Change involving 80 young scientists from 30 countries to address social-ecological problems. (https://www.nepam.unicamp.br/spsas-transdisciplinarity/)	
University of Guelph	Canada	The University of Guelph advances SES research through its interdisciplinary programs on biodiversity, agroecosystems, and environmental governance. It collaborates with conservation organizations and policymakers to apply SES principles in practice.	https://www.uoguelph.ca/
University of Leeds, Sustainability Research Institute	UK	Interdisciplinary SES research on sustainable transitions, ecosystem services, and environmental justice. Offers master's and PhD programs in sustainability.	https://environment.leeds.ac.uk/sustainability-research-institute
University of Manitoba	Canada	SES research on Indigenous knowledge, social justice, memory, and resilience learning from disasters.	https://umanitoba.ca/
University of Maryland	USA	A leader in SES research on land change science, coupled human-natural systems, and policy impacts, the University of Maryland houses the former SESYNC (Socio-Environmental Synthesis Center). It continues to offer interdisciplinary research training, graduate programs in sustainability, and collaborations with SES networks worldwide.	https://www.umd.edu/
University of Osnabrück - Institute of Environmental Systems Research	Germany	The interdisciplinary research centre focuses on the complexities of human-environmental systems emphasizing the interconnectedness of nature and society. Their mission is to understand the impacts of environmental changes, to identify associated problems, and to develop innovative solutions. Employing a range of methods from fields such as mathematics, computer science, natural sciences, economics, and social sciences supports to build a robust understanding of these coupled systems. They are committed to training students and early	https://www.usf.uni-osnabrueck.de/en/institute/welcome.html

		career researchers by providing specialized knowledge and a comprehensive view of environmental issues in a BSc and MSc program ‘System Science’ and ‘Environmental systems and resource management’.	
University of Tokyo	Japan	The University of Tokyo is a leader in SES research, focusing on social-ecological production landscapes, climate adaptation, and sustainability science. It offers graduate programs that integrate SES principles with environmental policy and governance.	https://www.u-tokyo.ac.jp/en/
University of Victoria (UVic)	Canada	The University of Victoria conducts SES research on marine conservation, Indigenous sustainability governance, and climate adaptation. It offers interdisciplinary graduate training and collaborates with coastal communities on resilience-based management.	https://www.uvic.ca/
University of Waterloo, Faculty of Environmental Studies	Canada	A leader in socio-environmental research, sustainability, and land-use planning, focusing on resilience in human-environment systems. Offers interdisciplinary graduate programs integrating ecological and social sciences.	https://uwaterloo.ca/planning/
Vrije University	Netherlands	Vrije University has a strong SES research focus on governance, ecosystem services, and sustainability science. It is home to leading programs on environmental policy, adaptive governance, and resilience research. The university offers master's and PhD programs integrating ecological and social sciences for sustainability transitions.	https://www.vu.nl/en/
Water Resource Institute, Rhodes University	South Africa	A research center dedicated to water governance, hydrological SES research, and sustainable water resource management. It engages in policy-oriented research and provides postgraduate training on water security in South Africa.	https://www.ru.ac.za/iwr/

SociECOS Lab, Sustainability, Resilience, and Governance of Socio-Ecological Systems Laboratory	Spain	SociECOS studies the dynamics of social-ecological systems focuses on understanding the relationships existing between nature and society, analyzing either the contributions made by biodiversity to human wellbeing (i.e., ecosystem services) or the human actions that, through institutions, affect the ecosystems integrity. We have recognized that human wellbeing depends partly upon the ecosystems, as well as, the ecosystem conservation depends on human behavior and governance processes.	www.sociecos.ual.es
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Appendix 2: Non-English abstracts in multiple languages, listed alphabetically

1. Afrikaans

Afrikaanse opsomming

Liebrecht Davies-Fick

Navorsing in sosiaal-ekologiese stelsels (SES) het te voorskyn gekom as 'n deurslaggewende interdisiplinêre navorsingsveld om die onderling verbonde uitdagings van die Antroposeen aan te spreek. Die SES-veld, gekenmerk deur plekgebaseerde, interdisiplinêre en transdisiplinêre navorsing, het nuwe teoretiese en metodologiese benaderings bevorder, toegewyde joernale gekweek en opvoedkundige programme aangespoor. Geanker in belangrike konseptuele vooruitgang en die bydrae van baanbrekende netwerke, het dié navorsingsveld wêreldwye volhoubaarheidsinisiatiewe, byvoorbeeld die Millennium Ecosystem Assessment en die Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, beduidend beïnvloed. Ondanks hierdie vooruitgang, staan die SES-veld steeds uitdagings in die gesig, insluitend konseptuele en metodologiese verbroekeling, uitdagings om plaaslike insigte tot op die vlak van wêreldwye raamwerke te skaal (en omgekeerd), asook om kruisskaalse telekoppeling vas te lê en terselfdertyd kontekstuele tersaaklikheid te behou. Inklusiwiteit bly 'n belangrike kwessie, omdat daar steeds staatgemaak word op korttermyn, onregverdig verdeelde toekennings en befondsing vir 'n groot gedeelte van navorsing wat in die SES-veld onderneem word. Gevolglik is streekgebonde, Inheemse en plaaslike bydrae dikwels ondervteenwoordig. Hierdie artikel stel die Vereniging vir Sosiaal-Ekologiese Stelsels ("Society for Social-Ecological Systems", SocSES) bekend – 'n wêreldwye platform wat daarop gemik is om voort te bou op die ryk geskiedenis van SES-netwerke en nuwe verbindings daartussen te vorm. SocSES het ten doel om SES-gebaseerde navorsing en aksie te bevorder en te ondersteun, met die oog op 'n regverdig en volhoubare toekoms. Ons skets hoe SocSES 'n tuiste sal bied vir SES-institute, netwerke, navorsers en praktisyne wat aan die wetenskap-praktyk-koppelvlak werk, om bestaande pogings te verbind en te versterk deur tematiese strome, streeksnodusse, 'n institusionele nodus, 'n nodus vir vroeëloopbaan-professionele persone, en sintesegroepe. Die vereniging sal 'n stabiele infrastruktuur voorsien om interdisiplinêre en transdisiplinêre samewerking te bevorder, die veralgemeenbaarheid en beleidsrelevansie van SES-navorsing te versterk, onderrig, navorsing en kennismedeproduksie te ondersteun, en die volgende generasie SES-werkers by te staan. Deur die volgehoue uitdagings in die veld aan te spreek en transformerende ruimtes en gemeenskappe vir innovasie en aksie te bevorder, poog SocSES om SES-kennis as 'n hoeksteen van wêreldwye volhoubaarheidswetenskap te ondersteun en te benut.

2. Croatian

Sažetak na Hrvatskom

Aleksandra (Sasha) Kosanic

Socijalno-ekološki sustavi (SES) i njihovo istraživanje je postalo neophodno interdisciplinarno područje za razumijevanje i međusobno povezivanje izazova sa kojima se suočavamo u Antropocenu. SES istraživanja se temelje na specifičnim geografskim područjima, te interdisciplinarnim i transdisciplinarnim pristupima. Ovo znanstveno područje je razvilo nove teoretske i metodološke pristupe, te potaknulo razvoj specijaliziranih akademskih časopisa i nove obrazovne programe. Temelj ovog znanstvenog područja je važan konceptualni napredak koji doprinosi razvoju pionirskih mreža, i u velikoj mjeri utječe na globalne inicijative za održivost, kao što su Milenijska procjena ekosustava (Millennium Ecosystem Assessment) i Međuvladina platforma za znanstveno-političke aspekte biološke raznolikosti i usluge ekosustava (IPBES). Unatoč tome, SES istraživanja se i dalje suočavaju sa konstantnim izazovima, kao što su npr. konceptualna i metodološka fragmentacija, i teškoća koje prizlaze iz istraživanja različitih geografskih razmjera (od lokalnih do globalnih okvira i obratno), te zauzimanjem različitih razmjera, telespojnicama (telecouplings) u namjeri da se zadrži njihova kontekstualna relevantnost. Inkluzivnost također ostaje vrlo važan izazov, s obzirom da su doprinosi regionalnih, autohtonih i lokalnih zajednica često nedovoljno zastupljeni jer su istraživanja na tom području još uvijek ovisna od kratkoročnih i nejednako raspodijeljenih sredstava. U ovom članku predstavljamo Društvo za socijalno-ekološke sustave (SocSES) – kao globalnu platformu kojoj je cilj nadogradnja i povezivanje s bogatom baštinom SES mreža. Cilj SocSES je unaprijeđivanje i podržavanje istraživanja, koje je utemeljeno na praksi i manifestaciji socijalno-ekoloških sustava, a vodi nas u smjeru pravedne i održive budućnosti. Ovdje opisujemo način na koji će SocSES pružiti prostor za nove SES Institute, umreženja, istraživače i praktičare koji rade na sučelju znanosti i prakse. SocSES teži povezivanju i osnažavanju postojećih tematskih tokova, regionalnih centra, institucionalnih centara, centara za mlade istraživače i profesionalce na početku karijere, i sintetizirane grupe. Društvo će pružiti stabilnu infrastrukturu za poticanje interdisciplinarnih i transdisciplinarnih suradnje, te poboljšanje općih korisnosti i političke relevantnosti SES istraživanja. Sve u cilju podrške novoj generaciji stručnjaka iz SES područja, i stvaranja znanja u namjeri jačanja obrazovanja, i istraživanja. Rješavanjem trajnih izazova s kojima se suočava ovo znanstveno područje i formiranjem transformativnih okvira i zajednica za inovacije i djelovanje, SocSES nastoji podržati i iskoristiti SES znanje kao ključni element globalne znanosti o održivosti.

3. Dutch

Nederlandse abstract

Francis Turkelboom

Onderzoek naar sociaal-ecologische systemen (SES) heeft zich ontpopt als een cruciaal interdisciplinair vakgebied voor het onderzoeken van de onderling verbonden uitdagingen van het Antropoceen. Dit vakgebied is gekenmerkt door plaatsgebonden, interdisciplinair en transdisciplinair onderzoek, heeft nieuwe theoretische en methodologische benaderingen ontwikkeld, en was bevorderlijk voor het starten van nieuwe tijdschriften en onderwijsprogramma's. Via zijn conceptuele kaders en netwerken heeft het een significante invloed gehad op wereldwijde initiatieven, zoals de Millennium Ecosystem Assessment (MEA) en het Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (Ipbes). Ondanks deze vooruitgang wordt het onderzoek naar SES geconfronteerd met hardnekkige uitdagingen, waaronder conceptuele en methodologische fragmentatie, problemen met het opschalen van gelokaliseerde inzichten naar mondiale kaders (en vice versa), en het identificeren van wereldwijde impacten (telecoupling). Inclusiviteit is ook een uitdaging, omdat regionale, inheemse en lokale inzichten vaak ondervertegenwoordigd zijn, en omdat (korte-termijn) financiering vaak ongelijk verdeeld is.

Dit artikel introduceert de *Society for Social-Ecological Systems* (SocSES) - een wereldwijd platform dat wenst voort te bouwen op de rijke erfenis van SES-netwerken. SocSES richt zich op het bevorderen van sociaal-ecologisch systeemgericht onderzoek en praktijk voor een rechtvaardige en duurzame toekomst. In dit artikel schetsen we hoe SocSES een thuis zal bieden aan instituten, netwerken, onderzoekers en mensen in de praktijk, die werken op het raakvlak tussen wetenschap, praktijk en beleid. De bedoeling is om bestaande initiatieven te verbinden en te versterken via thematische stromen, regionale hubs, een institutionele hub, een hub voor beginnende professionals en synthese-groepen. Dit platform zal een stabiele basis bieden om interdisciplinaire en transdisciplinaire samenwerking te bevorderen, de generaliseerbaarheid en beleidsrelevantie van SES-onderzoek te vergroten, onderwijs, onderzoek en co-productie van kennis aan te moedigen, en de volgende generatie SES-professionals te ondersteunen. Door de weerspannige uitdagingen van het vakgebied aan te pakken en de transformatieve ruimtes voor innovatie en actie te stimuleren, streeft SocSES ernaar om de kennis over SES te ondersteunen en te benutten als hoeksteen van wetenschap voor wereldwijde duurzaamheid.

4. French

Résumé en Français

Marianne Falardeau

La recherche sur les systèmes socio-écologiques (SSÉ) a émergé en tant que domaine interdisciplinaire critique pour se pencher sur les défis interconnectés de l'Anthropocène. Caractérisé par la recherche fondée sur le lieu, interdisciplinaire et transdisciplinaire, le domaine a avancé de nouvelles approches théoriques et méthodologiques, a promu des journaux dédiés et a stimulé des programmes éducatifs. Enraciné dans des avancées conceptuelles importantes et des contributions de réseaux phares, le domaine a significativement influencé les initiatives globales en durabilité, dont l'Évaluation des écosystèmes pour le millénaire et la Plateforme intergouvernementale scientifique et politique sur la biodiversité et les services écosystémiques. Malgré ces progrès, la recherche des SSÉ fait face à des défis persistants, dont la fragmentation conceptuelle et méthodologique, la difficulté à amplifier les idées et les perspectives locales aux cadres globaux (et vice versa) et à saisir les télécouplages trans-échelles, tout en retenant la pertinence contextuelle. L'inclusivité demeure également une problématique critique, avec les contributions régionales, autochtones et locales souvent sous-représentées, car il y a encore une dépendance sur les subventions à court terme et inégalement distribuées pour la plupart de la recherche dans le domaine. Cet article introduit la Société pour les systèmes socio-écologiques (SocSES) – une plateforme globale conçue pour connecter et bâtir sur l'héritage riche des réseaux en recherche des SSÉ. SocSES vise à avancer et à soutenir la recherche, la pratique et l'action sur les SSÉ vers un futur juste et durable. Nous soulignons comment SocSES sera un espace pour rassembler les instituts, les réseaux, les chercheur.e.s et les praticien.nes en science des SSÉ qui travaillent à l'interface science-pratique-politique pour connecter et amplifier les efforts existants via les canaux thématiques, les plateformes régionales, une plateforme institutionnelle, une plateforme pour les professionnel.les en début de carrière et les groupes de synthèse. La société fournira une infrastructure stable pour promouvoir les collaborations interdisciplinaires et transdisciplinaires, favoriser la capacité à généraliser la recherche sur les SSÉ et sa pertinence politique, stimuler l'éducation, la recherche et la co-production de savoirs et soutenir la prochaine génération de professionnel.les des SSÉ. En s'occupant des défis persistants auxquels fait face le domaine et en stimulant des espaces transformateurs et des communautés pour l'innovation et l'action, SocSES aspire à soutenir et à amplifier les savoirs sur les SSÉ comme une pierre angulaire de la science globale sur la durabilité.

5. German

Zusammenfassung auf Deutsch

Maraja Riechers, Larissa Kock

Die Forschung zu sozial-ökologischen Systemen (SES) ist zu einem bedeutenden interdisziplinären Feld geworden, das sich mit vernetzten Herausforderungen des Anthropozäns auseinandersetzt. Geprägt von raumbezogener, inter- und transdisziplinärer Forschung hat die SES Forschung neue theoretische und methodische Ansätze vorangetrieben, einschlägige Fachzeitschriften hervorgebracht und Bildungsprogramme angeregt. Basierend auf wichtigen konzeptionellen Fortschritten und den Beiträgen von wegweisenden Forschungsnetzwerken hat das Feld globale Nachhaltigkeitsinitiativen wie das Millennium Ecosystem Assessment und die Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services maßgeblich geprägt. Trotz der erzielten Fortschritte sieht sich die SES Forschung weiterhin mit verschiedenen Herausforderungen konfrontiert. Dazu gehören die konzeptionelle und methodische Fragmentierung, die Schwierigkeiten bei der Übertragung lokaler Erkenntnisse auf globale Rahmenbedingungen (und umgekehrt), sowie die Erfassung skalenübergreifender Telekopplungen, ohne dabei die kontextuelle Relevanz zu verlieren. Die inklusive Beteiligung bleibt ein kritisches Thema, in dem regionale, indigene und lokale Beiträge oft unterrepräsentiert sind. Dies liegt daran, dass ein Großteil der Forschung in diesem Bereich nach wie vor auf kurzfristige, ungleich verteilte Fördermittel angewiesen ist.

In diesem Artikel wird die Society for Social-Ecological Systems (SocSES) vorgestellt - eine globale Plattform, die auf dem reichen Erbe der SES-Netzwerke aufbauen und daran anknüpfen soll. SocSES hat das Ziel, die Forschung, Praxis und Maßnahmen im Bereich sozial-ökologischer Systeme zu fördern und zu unterstützen, um eine gerechte und nachhaltige Zukunft zu gestalten. Wir skizzieren, wie die SocSES eine Heimat für SES-Institute, -Netzwerke, -Forscher*innen und -Praktiker*innen bieten wird, die an der Schnittstelle von Wissenschaft und Praxis arbeiten. Durch den Aufbau von "thematic streams", "regional hubs" und "institutional hubs" ist die SocSES eine Vernetzungsplattform für wissenschaftlichen Nachwuchs und "synthesis groups". Die Gesellschaft wird eine stabile Infrastruktur bereitstellen, um die inter- und transdisziplinäre Zusammenarbeit zu fördern, die Verallgemeinerbarkeit und politische Relevanz der SES Forschung zu verbessern, Bildung, Forschung und Wissens-Koproduktion zu stärken und die nächste Generation von SES Experten zu unterstützen. Indem SocSES die bestehenden Herausforderungen im Feld angeht und transformative Räume und Gemeinschaften für Innovation fördert, möchte die neu gegründete Gesellschaft das Wissen über sozial-ökologische Systeme als fundamentalen Bestandteil einer globalen Nachhaltigkeitswissenschaft stärken und zur Verfügung stellen.

6. isiNdebele

Isifinyezo ngesiNdebele

Amanda Manyani

Uxhwayisiso lwe-Social-Ecological Systems (SES) seluphenduke indawo ebalulekileyo yokuhlola izinkinga ezixhumaneneyo zesikhathi se-Anthropocene. Lolu xhwayisiso lugxile ezindaweni ezithile, ludibanisa izifundo ezahlukeneyo, njalo lugcizelela izindlela ezintsha zokuhlola izinkinga ezixakayo. Luye lwavula amathuba okukhupha amaphepha oxhwayisiso, lwakhuthaza izinhlelo zemfundo, njalo lwathuthukisa izindlela ezintsha zokuqonda imvelo. Lolu xhwayisiso lusekelwe emithethweni ebalulekileyo kanye lemisebenzi yezixhumanisi ezibalulekileyo ezihlukeneyo, njalo seluye lwakhuthaza utshintso olukhulu ezinhlelweni zomhlaba zokugcina imvelo ezifana ne-Millennium Ecosystem Assessment kanye ne-Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

Kodwa-ke ngaphandle kwale impumela, kukhona ubunzima obusadinga ukulungiswa, obunjengokuhlukana kwemibono nezindlela zokuhlola, ubunzima bokuhlanganisa ulwazi lwendawo ezinhlelweni zomhlaba wonke, kanye nokuhlola izindlela zokuxhumana kwamazwe ahlukeneyo kungelakuhlekelwa yikubaluleka kolwazi lwendawo.

Ukufakwa kwemibono yabantu bonke kusese yindaba ebalulekileyo, njengoba imibono yendawo, iimibono yabomdabu, kanye leyabantu bendawo ingahlonitshwa ngendlela efaneleyo. Lokhu kubangwa yikuthi inxwayisiso ezinengi zisa thembele kakhulu emalini yama grant amfithshane, njalo lemali ingabiwa ngendlela elinganeyo.

Leli phepha lethula i-Society for Social-Ecological Systems (SocSES) – inhlango yomhlaba wonke ejonge ukuhlanganisa imizamo eyenziwe ngaphambilini ukuze iqhubeke ukuthuthukisa uxhwayisiso lwe-SES. I-SocSES ijonge ukusiza ekuxhumaniseni ingatsha ezitshiyeneyo eziphatha uxhwayisiso lwe SES. Lokhu kuzokwenziwa ngokwakha izingxenye ezifana nezindawo zokuxoxisana, ingatsha zemfundo, izindawo zosayensi leza labo abasanda kuqala umsebenzi wabo, kanye namaqembu atshiyeneyo okuxhwayisisa.

Le nhlango izonikeza indawo eqinileyo yokuxhumanisa ingatsha ezitshiyeneyo zemfundo nabanye abathintekayo, ithuthukise ukufundisa, iqinise ukuxhwayisiswa kweSES, futhi isekele isizukulwane esilandelayo sabaxhwayisisi be-SES. Ngokubhekana lezinkinga ezikhona nokwakha izindawo zokushintshisana ngemibono emitsha, i-SocSES ihlose ukusiza ekwakheni ikusasa elincomekayo.

7. Norwegian

Samandrag på nynorsk

Hildegunn Opdal, Katja Malmborg

Forsking på sosialøkologiske system (SES) har etablert seg som eit viktig tverrfagleg forskingsfelt for å møte berekraftsutfordringane i mennesket sin tidsalder (antropocen). Forsking på dette feltet er ofte stadbunden, tverrfagleg og transdisiplinær, og har ført til utvikling av nye teoretiske og metodiske tilnærmingar, fremja etablering av dedikerte tidsskrift og gitt opphav til nye utdanningsprogram. Med grunnlag i viktige teoretiske framskot, og med bidrag frå sentrale forskings- og praktikarnettverk, har feltet påverka globale berekraftinitiativ, som Millennium Ecosystem Assessment og Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Til tross for denne framgangen står likevel SES-forskinga ovanfor stadige nye utfordringar; som teoretisk og metodisk fragmentering, problem med å skalere opp lokal innsikt til eit globale rammeverk (og omvendt), og fange samanheng mellom stadar og høyerer nivåer (såkalla telecoupling), samtidig som lokal, kontekstspesifikk relevans vert opprettheldt. Fordi prosjekt på dette feltet framleis ofte vert finansiert av kortsiktige, ujamne geografiske fordelingar av forskingsmidlar, har inkludering og rettferd også blitt ei sentral utfordring, med mangel på representasjon frå enkelte regionale og lokale område, så vel som frå urfolks perspektiv. Denne artikkelen introduserer Society for Social-Ecological Systems (SocSES) - ein global plattform designa for å kople til, og vidareutvikle den rike tradisjonen til tidlegare SES-forskings- og praktikarnettverk. SocSES har som mål å fremje og støtte forskning, praksis og handling basert på sosialøkologiske systemperspektiv, med mål om å utvikle seg mot ei rettferdig og berekraftig framtid. Vi skildrar korleis SocSES vil kunne fungere som ein heim for institutta som har fokus på SES-forsking, for nettverk, forskarar og praktikarar som jobbar i skjæringspunktet mellom vitenskap, praksis og politikk. SocSES skal knyte seg til, og styrkje eksisterande innsats på forskingsfeltet gjennom såkalla «tematiske straumar», regionale møteplassar (nodes), eit sentralt institusjonelt knutepunkt, eit nettverk for fagfolk i tidleg karriere og syntesegrupper. SocSES som organisasjon vil gi ein stabil infrastruktur for å fremje tverrfagleg og transdisiplinært samarbeid, forbetre generaliseringa og relevansen til SES-forsking for politikk og avgjersle, styrke utdanning, forskning og samproduksjon av kunnskap, og støtte neste generasjon av fagfolk innan SES-feltet. Med fokus på utfordringane forskingsfeltet står ovanfor, og fremje transformative møteplassar og kontekster for innovasjon og handling, vil SocSES jobbe for å støtte og utvikle SES-kunnskap som eit av grunnleggjande for global berekraftsvitenskap.

8. Portuguese

Resumo em Português

Cibele Queiroz, Rafael Lembi

A investigação científica em sistemas socioecológicos (SES) emergiu nas últimas décadas como uma área interdisciplinar fundamental para o conhecimento sobre os desafios interconectados do Antropoceno. Caracterizada por uma abordagem interdisciplinar e transdisciplinar, ancorada no contexto local, esta área de investigação tem impulsionado novas abordagens teóricas e metodológicas, fomentado a criação de revistas científicas e estimulado programas educativos. Enraizada em importantes avanços conceptuais e numa vibrante cultura de colaboração académica, a investigação em SES influenciou significativamente iniciativas globais na área da sustentabilidade, como a Avaliação Ecosistémica do Milénio e a Plataforma Intergovernamental sobre Biodiversidade e Serviços Ecosistémicos.

Apesar destes avanços, a investigação em SES continua a enfrentar desafios persistentes, incluindo a fragmentação conceptual e metodológica, a dificuldade em traduzir e aplicar o conhecimento gerado em contextos locais no contexto global (e vice-versa) e a captação de teleacoplamentos entre diferentes geografias e escalas, sem perder a relevância contextual. A inclusão de diversas vozes e tipos de conhecimento também permanece uma questão crítica, com contribuições regionais, indígenas e locais frequentemente sub-representadas. Um dos maiores obstáculos a abordagens de investigação mais inclusivas é a existência de profundas desigualdades no acesso a financiamento de investigação científica e a natureza dos financiamentos nesta área que na grande maioria dos casos se caracteriza por financiamentos a curto prazo.

Este artigo introduz o lançamento da Sociedade de Sistemas Socioecológicos (SocSES) – uma plataforma global concebida para fomentar e dar continuidade ao rico legado das redes de colaboração científica em SES. A SocSES visa impulsionar e apoiar a investigação, prática e ação ancoradas em sistemas socioecológicos, promovendo um futuro justo e sustentável. Em particular, descrevemos de que forma a SocSES proporcionará um espaço interativo para institutos, redes de colaboração, investigadores e profissionais que trabalham na interface entre a ciência, o governo e a gestão prática de SES. Este espaço promoverá a colaboração e amplificação de esforços existentes através de grupos temáticos e de síntese, polos regionais, um pólo institucional, e um pólo para profissionais em início de carreira.

A sociedade fornecerá uma infraestrutura estável para fomentar a colaboração interdisciplinar e transdisciplinar, aumentar a generalização e a relevância da investigação em SES para a criação e implementação de políticas de gestão, fortalecer a educação, a investigação e a coprodução de conhecimento, e apoiar a próxima geração de profissionais da área. Ao abordar os desafios persistentes desta área, fomentando uma comunidade e o espaço para inovação e ações transformadoras, a SocSES ambiciona apoiar e potenciar o conhecimento dos SES como um pilar essencial da ciência da sustentabilidade global.

9. Slovenian

Povzetek v Slovenščini

Aleksandra (Sasha) Kosanic

Raziskave socialno-ekoloških sistemov (SES) so se razvile v ključno interdisciplinarno področje za reševanje medsebojno povezanih izzivov Antropocena. To področje, za katerega so značilne krajevno usmerjene, interdisciplinarne in transdisciplinarne raziskave, je prispevalo k razvoju novih teoretičnih in metodoloških pristopov, spodbudilo nastanek specializiranih znanstvenih revij ter pospešilo razvoj izobraževalnih programov. Zasedrno v pomembnih konceptualnih napredkih in prispevkih pionirskih mrež, je to področje močno vplivalo na globalne trajnostne pobude, kot sta Ocena ekosistemov tisočletja (Millennium Ecosystem Assessment) in Medvladna platforma za znanost in politiko na področju biotske raznovrstnosti in ekosistemskih storitev (IPBES). Kljub temu pa se raziskave SES še vedno soočajo s številnimi izzivi, vključno s konceptualno in metodološko razdrobljenostjo, težavami pri prenosu lokalnih spoznanj na globalne okvirje (in obratno) ter zajemanjem medskladnih povezav (telecouplings), on hkratnem ohranjanju kontekstualne ustreznosti. Vključevanje je prav tako ključni izziv, saj so regionalni, avtohtoni in lokalni prispevki pogosto premalo zastopani, raziskave na tem področju pa so še vedno v veliki meri odvisne od kratkoročnega in nepravilno porazdeljenega financiranja iz projektnih sredstev. V temu članku je predstavljeno Društvo za socialno-ekološke sisteme (SocSES) kot globalna platforma, zasnovana za nadgradnjo in povezovanje bogate dediščine SES mrež. Cilj SocSES je spodbujati in podpirati raziskave, prakse in ukrepanja, ki temeljijo na socialno-ekoloških sistemih, za pravično in trajnostno prihodnost. V članku poudarimo, kako bo SocSES zagotavljal prostor za SES inštitute, mreže, raziskovalce in praktike, ki delujejo na stičišču znanosti in prakse, da bi povezali in okrepili obstoječa prizadevanja preko tematskih tokov, regionalnih in institucionalnega vozlišč, vozlišč za mlade strokovnjake ter sinteznih skupin. Društvo bo nudilo stabilno infrastrukturo za spodbujanje interdisciplinarnega in transdisciplinarnega sodelovanja, povečanje splošne uporabnosti in politične relevantnosti raziskav SES, krepitev izobraževanja, raziskovanja in soustvarjanja znanja ter podporo naslednji generaciji SES strokovnjakov. Z naslavljanjem vztrajnih izzivov na tem področju ter ustvarjanjem transformativnih prostorov in skupnosti za inovacije in ukrepanje si SocSES prizadeva podpreti in izkoristiti znanje SES kot temelj globalne znanosti o trajnostnem razvoju.

10. Spanish

Resumen en Español

Berta Martín-López, Marta Barbés-Blázquez, Micaela Trimble

La investigación de sistemas socio-ecológicos (SSE) ha surgido como un campo de conocimiento interdisciplinario fundamental para abordar los múltiples desafíos interconectados del Antropoceno. Este campo de conocimiento, caracterizado por la investigación basada en el lugar (*place-based*), inter- y transdisciplinaria, ha aportado y avanzado nuevos enfoques teóricos y metodológicos, ha promovido la creación de revistas científicas, y estimulado programas educativos.

Enraizado en los avances conceptuales y en las contribuciones de redes académicas fundacionales, este campo de conocimiento ha influido significativamente en iniciativas globales para la sostenibilidad, como son la Evaluación de los Ecosistemas de Milenio, la Plataforma Intergubernamental sobre Biodiversidad y Servicios de los Ecosistemas (IPBES). Sin embargo, y a pesar de estos avances, la investigación de SSE sigue enfrentándose a desafíos persistentes, como la fragmentación conceptual y metodológica, la dificultad de trasladar los aprendizajes localizados a marcos globales (y viceversa), y de captar los fenómenos de tele-acoplamiento reteniendo la relevancia del contexto local. Otro aspecto crítico que requiere atención es la inclusión, ya que las contribuciones de conocimientos locales, indígenas y regionales siguen estando sub-representadas, y gran parte de la investigación en este campo sigue dependiendo de financiaciones a corto plazo distribuidas de forma desigual.

Este artículo presenta la Sociedad de Sistemas Socio-Ecológicos (SocSES, por sus siglas en inglés), una plataforma global concebida para construir sobre y conectar con el rico legado de las redes que han trabajado y trabajan en SSE. El objetivo de SocSES es fomentar y apoyar la investigación de los SSE, la práctica y la acción basadas en el estudio de SSE para fomentar un futuro sostenible y justo. Aquí esbozamos cómo SocSES proporcionará un ‘hogar’ para institutos, redes, investigadores y profesionales que trabajan con SSE en la interfaz ciencia-práctica-política, permitiendo conectarse y amplificar los esfuerzos existentes a través de líneas temáticas, centros de actividad (‘hubs’) regionales, institucionales y para profesionales en el inicio de su carrera, así como mediante grupos de síntesis. SocSES proveerá de una infraestructura estable para promover colaboración inter- y transdisciplinaria, promoverá la relevancia política de la investigación de SSE, fomentará la educación, investigación, y co-producción de conocimiento, y apoyará a las generaciones venideras de profesionales en el campo de SSE. Al abordar los retos persistentes a los que se enfrenta el campo de SSE y fomentar espacios y comunidades transformadores para la innovación y la acción, SocSES aspira a apoyar y potenciar el conocimiento sobre SSE como piedra angular de la ciencia de la sostenibilidad global.

11. Swedish

Sammanfattning på svenska

Katja Malmberg

Forskning om social-ekologiska system (SES) har vuxit fram som ett viktigt tvärvetenskapligt forskningsfält för att ta itu med hållbarhetsutmaningarna i människans tidsålder (Antropocen). Forskning i detta fält är ofta platsbaserad, tvärvetenskaplig och transdisciplinär, och har lett till utvecklingen av nya teoretiska och metodologiska tillvägagångssätt, främjat etablerandet av dedikerade tidskrifter och gett upphov till nya utbildningsprogram. Med grund i viktiga teoretiska framsteg och med bidrag från centrala forskar- och praktikernätverk har fältet påverkat globala hållbarhetsinitiativ, såsom Millennium Ecosystem Assessment och Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Trots dessa framsteg står SES-forskningen inför fortsatta utmaningar, så som teoretisk och metodologisk fragmentering, svårigheter att skala upp lokala insikter till globala ramverk (och vice versa), samt att fånga kopplingar mellan platser och nivåer (så kallad telecoupling), samtidigt som lokal, kontextspecifik relevans bibehålls. På grund av att projekt i detta fält fortfarande ofta är finansierade av kortsiktiga, geografiskt ojämnt fördelade forskningsanslag, har även inklusivitet och rättvisa förblivit en central utmaning, med bristande representation från vissa regionala och lokala områden samt från ursprungsbefolkningars perspektiv. Den här artikeln introducerar Society for Social-Ecological Systems (SocSES) - en global plattform utformad för att ansluta till och vidareutveckla den rika traditionen från tidigare SES-forskings- och praktikernätverk. SocSES syftar till att främja och stödja forskning, praxis och handling baserad på social-ekologiska systemperspektiv, med ett mål att utvecklas mot en rättvis och hållbar framtid. Vi beskriver hur SocSES kommer att kunna agera som ett hem för institut fokuserade på SES-forskning, för nätverk, forskare och praktiker som arbetar i skärningspunkten mellan vetenskap, praktik, och politik. SocSES ska ansluta till och förstärka befintliga insatser i forskningsfältet genom så kallade "tematiska strömmar", regionala mötesplatser (nav), ett centralt institutionellt nav, ett nätverk för yrkesverksamma tidigt i karriären, samt syntesgrupper. SocSES som organisation kommer att tillhandahålla en stabil infrastruktur för att främja tvärvetenskapligt och transdisciplinärt samarbete, förbättra generaliserbarheten och relevansen av SES-forskning för politik och beslutsfattning, stärka utbildning, forskning och samproduktion av kunskap, samt stödja nästa generation av yrkesverksamma i SES-fältet. Med ett fokus på de utmaningar som forskningsfältet står inför, och genom att främja transformativa mötesplatser och sammanhang för innovation och handling, kommer SocSES att sträva efter att stödja och utveckla SES-kunskap som en av grundvalarna i global hållbarhetsvetenskap.

12. Standardized Filipino

Abstract sa Standardized Filipino

Elsan Ian Nyl Galang

Ang pananaliksik sa *social-ecological systems* (SES) o sistemang lipunan-kapaligiran ay ngayo'y kinikilala bilang isang mahalagang interdisiplinaryong larangan para matugunan ang magkakaugnay na hamon ng *Anthropocene*. Ang pananaliksik sa SES ay nakabatay sa lugar at yumayakap sa mga interdisiplinaryo at transdisciplinaryong pamamaraan ng pananaliksik. Itong larangan ay nagpaunlad ng mga bagong teoretikal at metodolohikal na pamamaraan, nagtaguyod ng mga dedikadong journal, at nagpasimula ng mga programang pang-edukasyon. Ang larangang ito ay nakaugat sa mahahalagang konseptwal na pag-unlad at kontribusyon ng mga pangunahing *networks*. Malaki ang naging impluwensya ng larangang ito sa mga pandaigdigang inisyatiba pang sustenableng pag-unlad, tulad ng *Millennium Ecosystem Assessment* at ng *Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*.

Sa kabila ng mga pagunlad sa larangang ito, patuloy na kinakaharap ng pananaliksik sa SES ang mga hamon. Kabilang dito ang pagkakapira-piraso ng mga konsepto at pamamaraan, ang hamon ng pagsasalin ng mga lokal na kaalaman sa pandaigdigang balangkas at diskurso (at kabaliktaran). Hamon din ang pag-unawa sa mga *cross-scale telecouplings* (o relasyon ng mga SES sa ibat-ibang balangkas) habang pinapanatili ang kahalagahang pangkonteksto. Mananatili ring kritikal na usapin ang pagiging inklusibo. Ang mga rehiyonal, katutubong, at lokal na kontribusyon ay madalas na hindi gaanong kinakatawan, dahil sa patuloy na pag-asa sa panandalian at hindi pantay na ipinamamahaging pondong pang-pananaliksik.

Ipinapakilala sa papel na ito ang *Society for Social-Ecological Systems* (SocSES) – isang pandaigdigang plataporma na idinisenyo upang ipagpatuloy at pag-ugnayin ang mayamang pamana ng mga SES *networks*. Layunin ng SocSES na isulong at suportahan ang pananaliksik, pagsasanay, at aksyon na nakabatay sa social-ecological systems tungo sa isang makatarungan at sustenableng hinaharap. Inilalahad namin kung paano magiging tahanan ang SocSES para sa mga institusyong at grupong pang SES, mga mananaliksik, at mga nagtatrabaho sa ugnayan ng agham, pagsasanay, at patakaran. Kabilang sa mga pamamaraan ng SocSES ang pagtatag ng mga *thematic streams*, *regional hubs*, isang *institutional hub*, isang *early-career professionals hub*, at *synthesis groups*.

Magbibigay ang samahan ng matatag na imprastruktura upang mapalakas ang interdisiplinaryo at transdisciplinaryong kolaborasyon. Hangad din ng SocSES na mapahusay ang pangkalahatang bisa at kaugnayan ng SES research sa mga patakaran, mapaunlad ang edukasyon, pananaliksik, at magkatuwang na produksyon ng kaalaman. Ang samahan ay susuporta sa susunod na henerasyon ng mga propesyonal sa SES. Ang SocSES ay tutugon sa mga patuloy na hamon sa larangan at pagpapalakas ng mga espasyo at komunidad para sa inobasyon at aksyon. Hangad ng SocSES na suportahan at palakasin ang kaalaman sa SES bilang isang pundasyon ng pandaigdigang agham sa pagpapanatili.

13. Swahili

Muhtasari kwa Kiswahili

John Sanya and Neema R. Kinabo

Utafiti wa mifumo ya kijamii na kiikolojia (SES kwa Kiingereza) umeibuka kama nyanja muhimu ya taaluma mchanganyiko inayoshughulikia changamoto zilizoungana na athari za kibinadamu kwenye mazingira (Anthropocene kwa Kiingereza). Nyanja hii inayozingatia sifa za msingi za mahali husika, tafiti za ndani na baina ya taaluma, imeendeleza mbinu mpya za kinadharia na kiutaratibu, imekuza majarida, na kuchochea mipango ya elimu. Kwa kukita mizizi katika maendeleo ya kinadharia na michango ya mitandao muhimu, nyanja hii imechangia kwa kiasi kikubwa mipango endelevu ya kimataifa, kama vile Tathmini ya Milenia ya Mfumo Ikolojia na Jukwaa la Kiserikali la Sayansi-Sera kuhusu Bioanuwai na Huduma za Mfumo Ikolojia. Licha ya maendeleo haya, utafiti wa mifumo ya kijamii na kiikolojia unakabiliwa na changamoto, ikiwa ni pamoja na mgawanyiko wa kinadharia na kiutaratibu, ugumu wa kukuza mifumo ya maarifa ya mahali fulani kuwa ya kimataifa (na kinyume chake), na kupata athari zinazohamishiwa mahali pengine kutokana na mahitaji fulani (telecoupling kwa Kiingereza), huku ikizingatwa muktadha wa mahali husika. Ujumuiishi pia unasalia kuwa suala muhimu, huku michango ya kikanda, ya kiasili, na ya mahali fulani ikiwakilishwa kidogo, kwani bado kuna utegemezi wa ufadhili wa ruzuku wa muda mfupi, usiosambazwa kwa usawa kwa sehemu kubwa za kiutafiti. Andiko hili linatambulisha Jumuiya ya Mifumo ya Kijamii na Ikolojia (SocSES kwa Kiingereza) - jukwaa la kimataifa lililoundwa ili kutumika kama msingi na kuunganisha utajiri wa urithi wa mitandao ya mifumo ya kijamii na kiikolojia. SocSES inalenga kuendeleza na kuunga mkono tafiti zinazolenga mifumo ya kijamii na kiikolojia, utekelezaji na amali katika mustakabali wa haki na nyakati endelevu. Tunaelezea jinsi SocSES itakavyotoa jukwaa kwa taasisi za mifumo ya kijamii na kiikolojia, mitandao, watafiti na watendaji wanaofanya kazi katika nyanja za sayansi-utekelezaji-sera ili kuunganisha na kukuza juhudi zilizopo kupitia mitiririko ya mada, vituo vya kikanda, kituo cha kitaasisi, kituo cha wataalamu wanaochipukia na vikundi vya uchakataji. Jumuiya hii itatoa miundombinu thabiti ya kukuza ushirikiano wa kitaaluma, kuongeza ujanibishaji na uhusiano wa sera ya utafiti wa SES, kuimarisha elimu, utafiti, na uzalishaji wa maarifa-shirikishi, na kusaidia kizazi kijacho cha wataalamu wa mifumo ya kijamii na kiikolojia. Kwa kushughulikia changamoto zinazoendelea kukabili nyanja hii na kuchochea nafasi ya mabadiliko ya ubunifu na utekelezaji, SocSES inatarajia kuunga mkono na kutumia maarifa ya mifumo ya kijamii na kiikolojia kama msingi wa sayansi endelevu ya kimataifa.