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EDITORIAL

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Odyssey of First IALE World Congress in Africa and Opportunities for North-South or South-South Collaboration

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The landscape ecology community witnessed a landmark event in July 2023 as the 11th International Association for Landscape Ecology (IALE) World Congress unfolded on the African continent for the first time. This editorial commemorates this historic occasion, tracing the journey from the inception of Africa-IALE initiatives in 2002 to the culmination of the World Congress held in Nairobi, Kenya, almost two decades later. Having previously graced Europe, Northern America, Australia, and Asia, the IALE World Congress embraced Africa, showcasing the global reach and inclusive spirit of landscape ecology. This editorial explores the evolution of Africa-IALE, highlighting the initiatives and the persistent efforts that led to the World Congress in Africa. We firstly delve into the socio-cultural and international significance of this shift, emphasising the unique perspectives and challenges faced by the African landscape ecology community. Secondly, we assess the participants involved in the 11th World IALE Congress, the topics discussed, current trends, and priorities within the global landscape ecology research community. To do so, we conducted a bibliometric analysis of the conference proceedings. Lastly, we reflect on the impacts of this Congress. Our retrospective perspective offers a comprehensive view of the symbiotic relationships among the international landscape ecology community and how landscape ecology has evolved in parallel with emerging challenges and emerging centres of knowledge and leadership.

1 The journey towards the first IALE World Congress held in Africa

The year 2023 marked a significant milestone in landscape ecology as the eleventh IALE World Congress unfolded on the African continent for the first time since IALE launched the World Congress series in 1984 (and held every four years thereafter). Previous IALE World Congresses were held five times in

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Table 1. Key milestones in the Odyssey of Africa-IALE from 2002 to 2019 (by Henry Bulley).

Year	Milestone	Event
2002	Conception of Africa Regional of IALE (Africa-IALE)	US-IALE Annual Meeting Lincoln, Nebraska, USA (24-26 April, 2002)
2003	Initial Inauguration of Africa-IALE	6th IALE World Congress Darwin, Australia (13 -17 July, 2003)
2005	Regional Conference of Africa-IALE Theme: Changing Landscapes of Africa: A Common Approach to Diverse Challenges (Paysages Changeants de l'Afrique: Une Approche Commune aux Defis Divers) **cancelled due to low registrations from African countries	1st Regional Biannual Conference of Africa-IALE Elmina, Ghana (19-23 July, 2005)
2007	• Workshop on Landscape Ecology and Sustainable Management of Natural Resources as a new paradigm for environmental management in Africa in the 21st Century • Initial election and inauguration of Africa IALE Executive Committee	7th IALE World Congress Wageningen, The Netherlands (July 8-12, 2007)
2013 -15	Landscape ecology knowledge-base and capacity building webinars	Online
2015	• James W. Merchant, Jr. Memorial Workshop: Modeling Landscape Change and Ecosystem Services Across Multiple Spatial and Temporal Scales • James W. Merchant, Jr. Memorial Symposium: Prospects of Geospatial Technologies to Support Landscape Sustainability and Development in Africa ** The late James Merchant was Henry Bulley's PhD mentor and introduced him to IALE	9th IALE World Congress Portland, Oregon, USA (5-10 July, 2015)
2016	Election of Africa-IALE Executive Committee via online voting	Online
2016	• Workshop: Integrating Landscape Ecology and Geospatial Technology for Assessing Land Use Dynamics & Ecosystem Services across Multiple Scales • Special Session: Integration of Landscape Ecology and Geospatial Technology for Sustainable Development of Urban Areas in Africa • **Inauguration: Africa-IALE Executive Committee**	African Association of Remote Sensing of the Environment (AARSE) Conference Kampala, Uganda (24-28 October, 2016)
2017 - 18	• Landscape ecology knowledge-base and capacity building webinars • Africa Regional Chapter of IALE (Africa-IALE) Constitution formalised by IALE EC as regional chapter	Online
2019	• Symposium: Satellite and UAV (Drone) systems for assessing and monitoring of ecological landscapes of Africa • **Initial Discussions about hosting 11th IALE World Congress in Africa**	10th IALE World Congress Milan, Italy (1-5 July, 2019)

Europe (1984, 1987, 1995, 2007, 2019), three times in North America (1991, 1999, 2015), and once in Australia (2003) and Asia (2011).

The Africa-IALE regional chapter traces the fascinating journey leading up to this event, highlighting the collaborative efforts and developments within the African landscape ecology community. Landscape ecologists across Africa have been active for many years already in IALE. The groundwork for the regional chapter was laid in 2002 when the Africa-IALE chapter was initiated during the US-IALE conference in Lincoln, Nebraska. This students-led Africa-IALE initiative was spearheaded by Henry Bulley (Ghana, University of Nebraska-Lincoln) and included Hussein Alidina (Somalia, WWF-Canada) as well as Crispen Marunda (Zimbabwe, University of York, UK).

One year later, their efforts gained momentum at the 2003 IALE World Congress in Darwin, Australia with a symposium dedicated to "Landscapes of Africa'' (Franks et al. 2003). This symposium addressed a diverse array of landscape ecology topics, such as a human-ecological perspective of natural resource management schemes (Blume, 2003), land cover changes and landscape patterns and their effects on hydrologic system (Bulley et al. 2003; Marunda 2003), vegetation dynamics of urban biotopes (Cilliers et al. 2003), the effect of zoodiversity on land-use and the environment (Muriuku et al. 2003, Zeller et al. 2003), as well as the effects of fire regimes on microbial community composition (Fiag et al. 2003). By the end of 2003, Africa-IALE already counted 42 members and they formed the first interim committee (IALE 2003).

In the following years the activities of Africa-IALE were stimulated by improvements in the collection and processing of landscape-based data across the African continent and the inauguration of the African Union which offered opportunities for collaboration among researchers and resource managers who were interested in mitigating degradation of resources (IALE 2004). Consequently the number

of contributions at the next IALE World Congress, in Wageningen, The Netherlands in 2007, increased and the number of participants from various African countries more than doubled (Bunce et al. 2007). In addition, one workshop was explicitly dedicated to Landscape Ecology and Sustainable Management of Natural Resources as a new paradigm for environmental management in Africa in the 21st Century (Bulley and Turner 2007). The workshop emphasised the historical exploitation of Africa's rich natural resources without substantial improvement in socio-economic well-being. It underscored the importance of adopting a landscape perspective for sustainable resource management, as outlined in the UNEP report "Our Environment, Our Wealth" (UNEP 2006). The integration of ecology into the management of various natural resources was addressed, emphasising the need for a paradigm shift to broader landscape scales and addressing training and institutional issues to bridge the gap between landscape ecology science and resource management in African countries.

Discussions on landscape ecology in Africa continued at the 2011 IALE World Congresses in Beijing (Jones and Fu 2011). From 2013 to early 2015, IALE EC supported a series of webinars coordinated by Henry Bulley (USA) and Jane Bemigisha (Uganda) with a focus on landscape ecology knowledge-base and capacity building for the burgeoning Africa-IALE community. These webinars led to two workshops and symposia at the 2015 IALE World Congress in Portland Oregon, USA (Scheller et al. 2015). IALE EC also supported the official inauguration of Africa-IALE at the October 2016 African Association of Remote Sensing (AARSE) conference in Kampala, Uganda. The newly established Africa-IALE executive continued with the landscape knowledge-base and capacity building webinars. However, it was not until 2017 that Africa-IALE became a formal IALE regional chapter, solidifying the collaboration within the international IALE community (https://africaiale.org). Setting its own agenda, Africa-IALE aimed to; (a) promote landscape ecology in Africa as an integrated discipline involving biophysical and socioeconomic sciences, (b) advocate for integrated management of African landscapes to the benefit of its people and conservation of biodiversity, and (c) influence policy dialogue at continental and international instances pertaining to resource utilisation and management of African landscapes. These efforts culminated in a symposium at the 2019 IALE World Congress in Milan, Italy (Padoa Schioppa et al. 2019). The key milestones in the Africa-IALE journey from Lincoln, Nebraska to Milan, Italy are highlighted in Table 1.

The research activities of landscapes ecologists from Africa or outside addressing African landscapes cumulated in a wide spectrum of research articles, case studies, reviews, etc. In Landscape Ecology, the flagship journal of IALE, publications related to landscapes at the African continent increased over years and accounted for about 15 percent of articles in recent years (Figure 1).

With Africa-IALE established and a growing body of research focused on landscape ecology and African

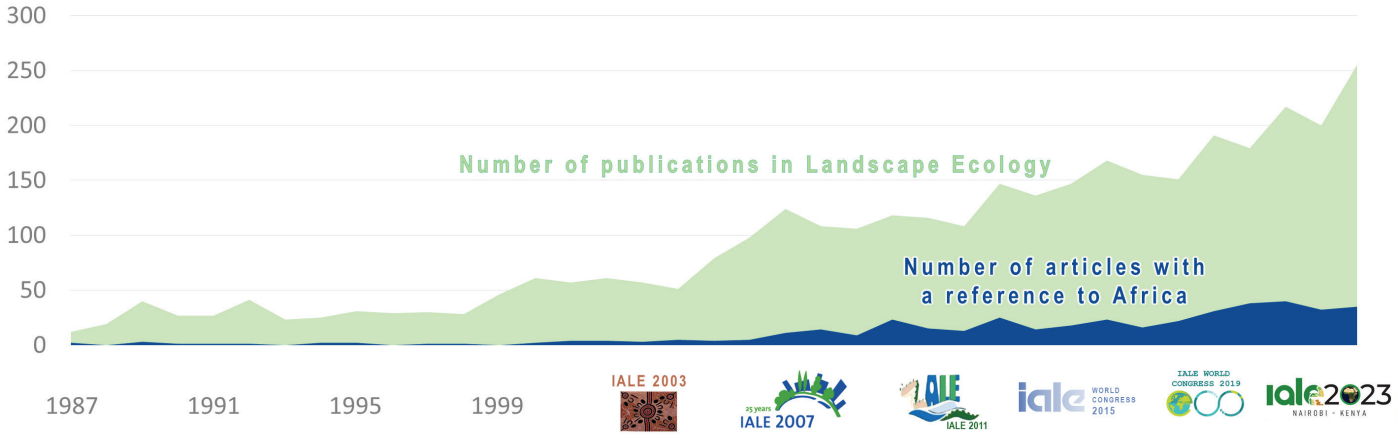

Figure 1. Share of articles with a reference to Africa, published in Landscape Ecology, flagship journal of IALE, in between 1987 and 2022 - approximate based on "Africa" as any document attribute e.g. part of title, keywords, abstract, affiliation etc. (N=421 out of 3.469 articles).

landscapes, the stage was set for Africa to successfully bid and host the first IALE World Congress on the continent. The event was held under the overarching theme "Transboundary Resource Management, Climate Change and Environmental Resilience". This event promised to bring together experts, researchers, and practitioners from around the world to engage in discussions, share insights, and explore collaborative initiatives in the field of landscape ecology on the African continent and beyond.

The journey leading up to this momentous occasion was characterised by the dedication of the African landscape ecology community, marked collaborative efforts, advancements in research, and a commitment to sustainable landscape management. As the global community awaited the impending IALE World Congress in Africa, expectations were high for a gathering that would not only showcase the richness and diversity of African landscapes but also contribute significantly to the broader landscape ecology discourse on a global scale. And IALE 2023 World Congress in Nairobi, Kenya met these expectations. We also acknowledge a StoryMap narrative of the Nairobi congress, IALE 2023 In Retrospect (https://storymaps.arcgis.com/stories/f22b36695306495d84725abfde856d0c), for providing more detailed visual reflections of the event.

2 A bibliometric analysis of the scientific discourse at the World Congress in Nairobi

Since its establishment in 1982 in the Slovakian town of Piestany, the International Association for Landscape Ecology (IALE) has promoted landscape ecology as the scientific basis for the analysis, planning, and management of landscapes across the world. The association's roots, however, bear the imprints of a pronounced Northern-centred influence, as underscored by the historical trajectory of its congresses. In addition, two predominant "schools of thought" have emerged within landscape ecology - the North American school and the European school of landscape ecology - both of which are recognised as having played a crucial role in the development of the discipline.

Against this background scholars have delved into the evolution of Landscape Ecology and the dynamics within the landscape ecology community. Notable works, such as those by Antrop (2007), Kirchhoff et al. (2012), Barret et al. (2015), Forman (2015), Young et al. (2020), and Francis and Antrop (2021), and most lately Van Eetvelde and Aagaard Christensen (2023) have provided insightful analyses into the diverse array of methodologies drawn from research traditions spanning the natural, social, and human sciences contribute to the exploration of the research agenda in landscape ecology. Additionally, bibliometric analyses examining the nature of research papers and scientific journals, exemplified by studies conducted by Andersen (2008), Wu (2015), and Rolf and Schirpke (2022) shed light on the diversification of landscape ecology research, changing scopes and the emergence of new thematic areas of its domain.

Against this backdrop, our objective is to scrutinise the thematic landscape of the 11th IALE World Congress and explore how a Southern perspective injected fresh insights and broadened the scope of the prevailing Northern-centric viewpoint on landscape ecology. By doing so, we aim to contribute to a more inclusive and globally representative discourse within the field, fostering a collaborative approach that transcends geographical boundaries and enriches the collective understanding of landscape ecology.

We conducted a comprehensive examination of the scientific discourse at the 2023 IALE Congress through a rigorous bibliometric analysis of conference papers. Our analysis included 504 abstracts, as shown in Table 2. The collective authorship, including lead and co-authors, represented a remarkable diversity, originating from 73 countries, indicating a truly global distribution (see Figure 2). Of particular note, authors from 24 different African countries actively participated in addressing the congress themes.

Looking at the total pool of contributions, about 17% were from Africa. While each participant was principally asked to submit only one abstract as first-author co-authors potentially could contribute to several submissions. The analysis showed that Kenya (60), South Africa (57), Benin (16), Zimbabwe (14) and Ethiopia (14) provided the most important Afri-

Table 2. Geographical distribution of contributions and contributors of the 11th IALE World Congress.

	Number of countries of all contributing authors and co-authors		Number of all contributing authors and co-authors (including double counts)		Number of first authors of conference contributions	
Africa	33 %	24	17 %	243	17 %	86
South America	6 %	4	4 %	51	3 %	17
Asia	19 %	14	27 %	406	31 %	155
Europe	34 %	25	42 %	626	39 %	195
North America	7 %	5	9 %	136	9 %	47
Oceania	1 %	1	1 %	15	1 %	4
Sum (=n)		n=73		n=1.477		n=504

can contributions. Looking at the regional contributions, the participation of South America is striking, with Brazil (33) and Chile (11) being the most important contributors. Contributions from Asia were also significant, with China (199), Japan (85) and India (64) playing a prominent role. A closer look at the first authors of the papers, reflects a similar distribution i.e. share in comparison to the number of all contributing authors and co-authors.

Looking at this the 11th World Congress reveals a remarkable milestone—the highest participation from African contributors in the history of the congress (figure 2). While this may seem unsurprising given the congress's location, it underscores the event's significance as a pivotal moment in the landscape ecology domain, catalysing vibrant scientific discourse with unprecedented input from the African continent. Beyond its quantitative impact, the congress serves as a unique platform that facilitated the convergence of African researchers, providing them with an invaluable opportunity to exchange ideas and foster collaborations.

It is noteworthy that while North-South exchanges often benefit from international funding schemes, establishing meaningful South-South collaborations and partnerships presents a more formidable challenge. In this context, the congress not only acted as a catalyst for global landscape ecology discussions but also served as a nexus for knowledge exchange along the South-South axis. However, a critical observation surfaces—the notable absence of francophone African countries. This raises the crucial point

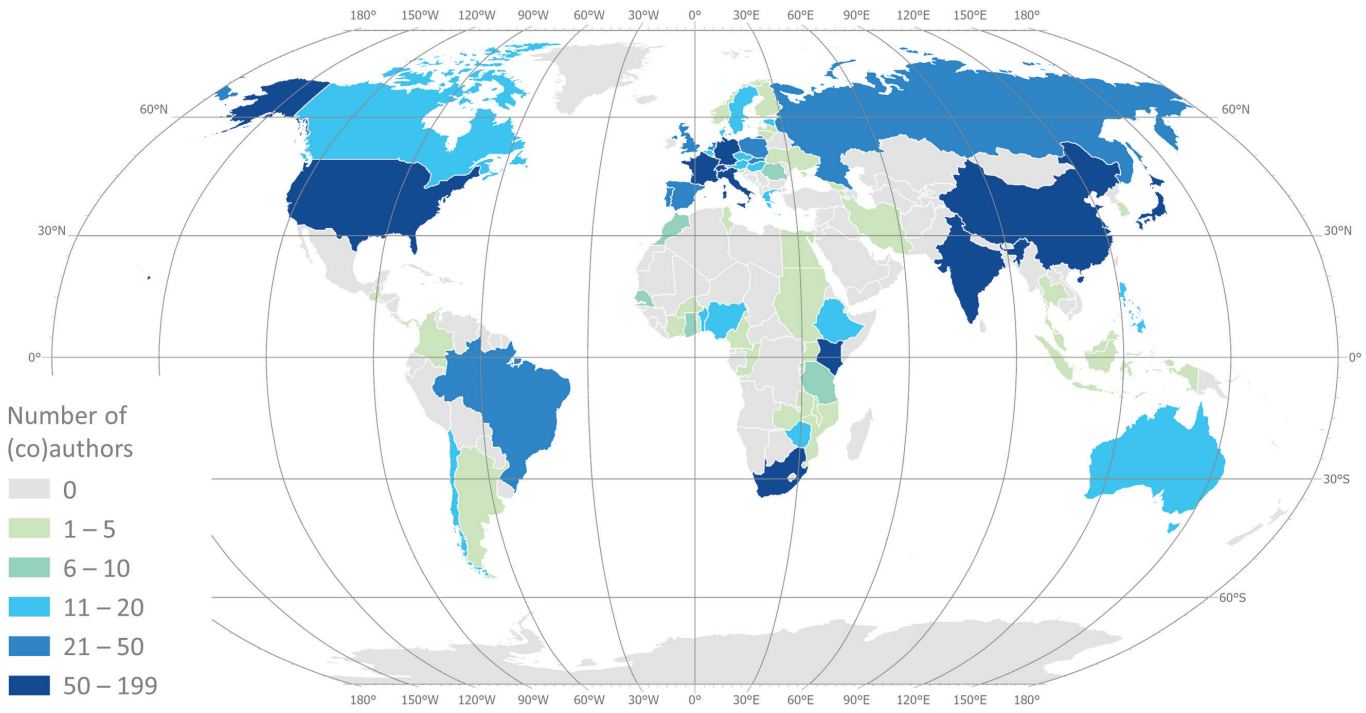

Figure 2. Spatial distribution of (co)authors contributing to the IALE World Congress based on their affiliations (n=1477).

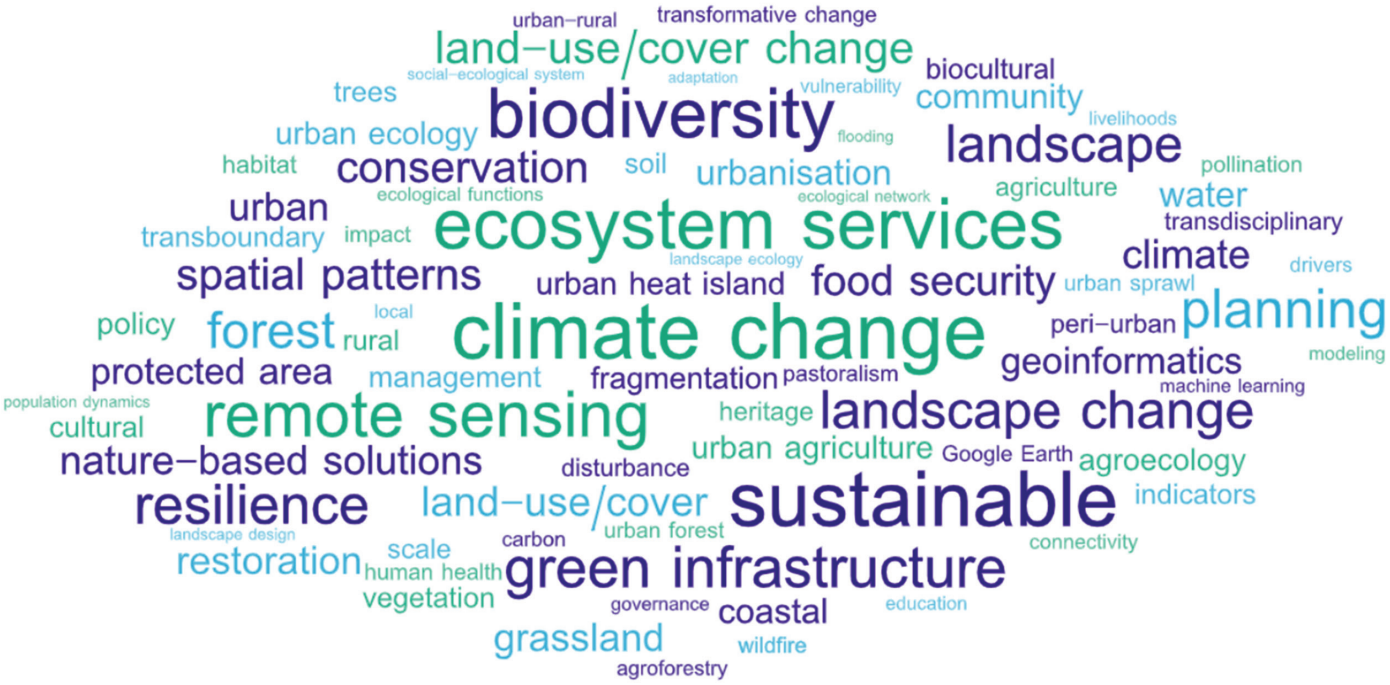

Figure 3. Word cloud of the most used keywords of the conference proceedings. Only keywords with more than 5 occurrences are included.

that language barriers may be a hindrance to a more widespread exchange among actors in the Global South.

The 11th World Congress has not only broken records in terms of African participation but has also illuminated the complexities of fostering comprehensive South-South collaborations. The language barrier appears to be a limiting factor, emphasising the need for concerted efforts to bridge linguistic gaps and promote a more inclusive dialogue on the global stage of landscape ecology. As we celebrate the achievements of this congress, it becomes imperative to address these challenges to ensure a truly interconnected and diverse landscape ecology community.

An evolution of topics within this conference seems to appear while looking at the changing thematic focus of the congress contributions. A clear shift can be seen in the discussions, reflecting an increasing emphasis on topics with an impact on nature and people. In particular, topics such as climate change, land cover change, ecosystem services and sustainability take centre stage, reflecting a move away from theoretical discussions on landscape ecology. The discourse is now centred on tackling real challenges with a focus on local solutions, such as the planning of green infrastructure and nature-based solutions to enhance resilience. Biodiversity and climate change, pervasive global problems, are now being stressed as priority issues, and we argue that the conference in Africa even stresses this discussion particularly. More so, the Global South can take a lead in this transformative dialogue, since these regions, often more affected by climate change, biodiversity loss and exploitative resource extraction, are driving the discussion towards practical solutions. Consequently, the keywords of this congress no longer correspond to traditional North American and European-centred perspectives and mark a paradigm shift towards a more diverse and globally relevant discourse.

Combining the insights from various contributions underscores the interconnected nature of climate change, the preservation of diverse landscapes, and the promotion of environmental sustainability. Addressing these challenges effectively requires a collective, global effort characterised by the implementation of well-designed policies, technological advances and concerted action to change individual behaviours. The overarching goal is to minimise humanity's ecological footprint and create a sustainable and resilient planet that serves the well-being

of present and future generations. Achieving them requires global cooperation, sound policies, technological advancements, and changes in individual behaviours to reduce humanity's ecological footprint and ensure a habitable planet for future generations. Landscape ecology emerges as a crucial framework capable of addressing these intertwined goals and challenges. Notably, remote sensing - which has always been a relevant topic at previous IALE congresses ever since, has emerged as a key technology that plays a key role in generating actionable insights into the above landscape processes.

3 Reflections along this journey - a journals perspective

In retroperspective, also the journal Landscape Online has evolved along with Africa-IALE and reflects these broader changes in the discipline of landscape and the IALE organization. During the 2023 World Congress, the journal's editorial team actively contributed to two sessions that highlight this evolution on challenges and opportunities of publishing and disseminating transboundary landscape ecology and landscape architecture research (Gagné and Wu 2023) and the identification of barriers and solutions towards equitable publishing in landscape ecology (Constanza et al. 2023). The joint session's discussion reflected on persistent challenges in publishing landscape ecology research, particularly for underrepresented groups, such as biases in the peer-review process, including those against early career researchers, women, and non-English speakers. Furthermore, it shed light on publication fees and language barriers that hinder researchers, particularly from low- and middle-income countries. These pervasive inequities have been critically discussed for many in years in various disciplines (e.g. Canhos et al. 1999, Groener 2004, Sumathipala et al. 2004, Victora and Moreira 2006, Smith et al. 2014) and lately also in the field of land science, ecology and conservation (e.g. Armenteras 2021, Trisos et al. 2021, Kamau et al. 2022, Mohammadi et al. 2022, Nakamura et al. 2023). During the congress discussion the journal's contributions shed light on the perspective of a community-owned self-published open-access journal (Rolf and Schirpke 2023). It highlighted three aspects relevant for the journal's future journey: a) to remain independent, thus contributing to the journal's diversity, b) to further promote young scholars as a journals 'DNA' by activities such as promoting review tandems, incorporating early career scholars in the editorial board, and c) to strengthen scientific discourse between the Global North and Global South by becoming more inclusive.

So how can we navigate a journal to overcome these challenges and towards more equitable publication practice? On the one hand, as editors of a small community-owned self-published journal, we are faced with limited financial and human resources, struggling to keep the daily editorial tasks running. But this independence also offers opportunities, since we already used this freedom to bid farewell to the "rat race" of publishing houses competing for business profit. First, the article processing charges can be calculated non-profit and only cost-covering oriented – based on expenses needed for article formatting, production and registration services. The pricing system should be flexible, based on solidarity between authors from high- and low-income countries and include fee-waiver that reflect the actual availability of funds. This, combined with the Open Access policies, can promote the visibility of scientists' research from regions with less financial resources. Furthermore, we can promote and encourage publications of work that align differently from the focus of a Northern-centred landscape ecology research agenda or have different perspectives. We can facilitate scientific partnerships between authors from the Global North and Global South, who are committed to a mutual scientific agenda and tangible rewards for both parties. In addition, we should build and maintain a geographically diverse editorial board and a pool of reviewers to avoid bias during the peer review process. It should be ensured that at least one referee is familiar with the conditions in the country where the research was conducted and that they are willing to offer constructive criticism and provide necessary guidance and assistance to enhance manuscripts for publication. Most importantly, we should be careful by accepting manuscripts from studies conducted in the Global South with author lists not containing any members from the region to avoid publications of extractive

research practices and so called "colonial science". We argue that these steps put emphasis on publishers' as well as editors' ethical responsibility and can contribute to healthy global scientific collaborations in landscape ecology among researchers as publishers, editors, reviewers and authors. While reflecting on these points and taking into account the previous editorial (Rolf and Schirpke 2022), we believe that Landscape Online is heading towards these directions but still, more efforts are needed. Therefore, we really appreciate this opportunity for the exchange of thoughts among all co-authors of this article that will undoubtedly stimulate future developments of our journal to better align all of these goals.

The journal's issue in 2023 addressed topics that are clearly linked to the discourse as highlighted in the previous section, thus being in line with the need to provide local solutions to global challenges. Also, geographical diversity is being increased. In this year, every fourth published article has been authored in the Global South. Manna et al. (2023) examined the intertwined layers of forests, local habitats, practices, and institutions, providing insight into the region's unique environmental history and identifying the challenges associated with settlements in India's Himalayas. Two studies addressed the impact of infrastructure development. In Chile, landscape changes by highway developments have been examined (Ojeda Leal 2023), while ecosystem services of roadside vegetation types have been analysed in Qatar (Mogra et al. 2023). However, all other studies have been authored in Europe, whereas the trend of previous years continued. We received an increasing number of articles from countries in Eastern Europe covering a wide thematic spectrum. They range from studies on the geomorphological investigation of subaqueous landforms with a lithological classification of bottom sediments (Kot et al. 2023), across the human perception of historical fortress landscapes (Pardela et al. 2023) to practices for environmental impact assessment (Bobrowska et al. 2023). In addition, articles address transformations and landscape changes, such as in historical agricultural landscapes (Myga-Piątek and Żemła-Siesicka 2023), post-industrial urban areas (Pukowiec-Kurda 2023), or towards the development of 'smart' historical gardens to promote pro-ecological and pro-climate solutions and to strengthen resilience of European landscape heritage (Dudek-Klimiuk and Warzecha 2023). Another two articles explicitly addressed the ecosystem services concept. Schirpke et al. (2023) look at the climate response of alpine lakes and its impacts on ecosystem services, while Kuhn et al. (2023) investigate spatial correlations between marine uses and ecosystem service supply in marine areas. In addition, one article has been assigned to the Living Special Issue on Education in Landscape Ecology – Sharing Knowledge and Experience. It presents challenges of online teaching and learning about landscapes during the COVID-19 pandemic (Markuszewska 2023).

4 Self-reflections and the future of Landscape Ecology

As the 11th IALE 2023 World Congress reveals, IALE is no longer bi- or tripolar (Europe, North America, East Asia) organization; it has profoundly shifted towards its intended vision of an equitable and inclusive network of global scholars and practitioners. The years since the last World Congress in Italy and presentations in Nairobi suggest a 'watershed' moment when the Global South emerged as equal partners and provided a paradigm shift for framing landscape ecology as vital "scientific underpinning" to address pressing issues such as climate change, landscape change, biodiversity, ecosystems services, resilience of socio-ecological systems, urban landscape, and sustainability.

This is reflected in the shift in research pursued by landscape ecologists. For four decades, landscape ecology has been rooted in the foundational concepts set forth in the 1960s (Europe) and 1970 - 80's (USA) including pattern and process, disturbance ecology, pattern analysis, remote sensing of environmental conditions. These research undertakings were often premised on a minimal or static human footprint. Although more inclusive of human's role in shaping landscapes than strictly ecology, it was often separate and distinct from the consequences of change on the livelihoods and cultures of local communities. Today, as evidenced by the word cloud (Figure 3) above, landscape ecology is embedded

within the needs of local human populations and seeks to provide solutions to ongoing and accelerating global climate change, resilience, and sustainability challenges.

In sum, the IALE 2023 World Congress was marked by a prevalent focus on applied research, evident in the word cloud analysis of conference papers and presentations (Figure 3). The studies presented at the event primarily delved into addressing pressing environmental challenges associated with climate change, biodiversity, ecosystem services, sustainability, green infrastructure, resilience, and landscape change. Notably, remote sensing emerged as a pivotal technology, playing a key role in generating actionable insight into the above landscape processes. IALE 2023 thus represented a notable departure from prior congresses, which were largely dominated by research papers centred on theoretical concepts in landscape ecology.

Furthermore, one congress session was particularly dedicated to the challenges and opportunities in research from Africa and Latin America regions of the Global South (Echeverría et al. 2023). This session aimed to (i) identify the mutual and region-specific challenges in terms of research from a landscape ecology perspective, (ii) identify future trends in research under global change scenarios, and (iii) explore opportunities of south-south collaboration to cope with ecological, human and climate crisis. The organizers noted that a significant number of landscape research and articles from this region were concentrated in cities and forests. This reflects the reality of growing urban population in Africa and Latin American countries and the vital importance of the Tropical Rainforests (Amazon and Congo) to carbon sequestration initiative to mitigate global warming trends. Presenters and discussants addressed some key issues including the need to shift from primary North-South collaboration on landscape research in this region towards more collaborative research initiatives between African and Latin American Scholars. Another core message from this session was the need to recontextualize frameworks such as "nature-based solutions" from a Global North perspective to one that reflects the lived experiences and sociocultural norms of local communities in Africa and Latin America. These experiences have evolved over millennia and are essential in protecting environmental resilience and biocultural diversity of multiple socio-ecological systems in the Global South.

Also, the growing field of Geospatial Artificial Intelligence (GeoAI), where satellite and drone remote sensing technologies are integrated with machine learning, cloud-computing, smart phones, and Internet of things, promises to launch a new era of agricultural revolution in Africa, and by extension Latin America. Finally, while Brazil and South Africa have emerged as leading contributors to landscape research in Latin American and Africa, respectively, researchers and practitioners in these countries could also lead the way in the kind of South-South collaboration in landscape ecology research needed to support decision making for sustainable development that are rooted in the environmental and sociocultural context of these regions. For example, challenges facing urban and peri-urban areas due to rapid population growth are common to African and Latin American countries, and lessons learned from joint research initiatives are key to addressing these challenges in the 21st century.

5 Conclusions

First and foremost, we would like to thank all the participants, we have had the pleasure of meeting this year at the IALE 2023 World Congress in Nairobi, Kenya – Asante Sana. The meeting's attendees, both in person and virtual, included many new faces and the return of many long-term stalwarts. This combination of "new and old" reflected a healthy evolution of IALE and landscape ecology. It shows that the Landscape Ecology community is not stagnating, but rather the nodes and connections of the network - both as defined by topics and by participants - are shifting. As the community has grown, there has been a marked shift from the initial theoretical considerations developed in Europe and North America to practical relevance, reflecting the evolving nature of landscape ecology to meet 21st century challenges. This transition signals a shift from abstract concepts to locally applicable solutions and underscores the dynamic evolution of the field. For a comprehen-

sive understanding and documentation of this paradigm shift in landscape ecology, further research in the form of a comprehensive literature review and comparative study of previous IALE World Congresses would be invaluable.

Simultaneously, as we navigate this transformative phase in landscape ecology, there is a parallel need to enhance the ethos of our academic publishing practices. Therefore, a second strand of this Editorial emphasizes the importance of fostering a collective commitment towards more equitable publishing. To achieve this, publishers and editors must engage in critical self-reflection to identify deficits, gaps and challenges in the current system. Additionally, we need to explore strategic opportunities for improvement, such as outlined in section 3. The journal's own reflection concludes that, although we have witnessed an increase in publications from the Global South over the years with every fourth published article in 2023 originating from the Global South, this Editorial of the 2023 issue still highlighted limited geographical diversity, particularly regarding the dissemination of research from Africa. Hence, there is still a way to go for Landscape Online as well. This is particularly crucial since a community-owned, self-published journal must be at the forefront of dismantling barriers and ensuring the showcase of an unequivocal platform for amplifying the representation of diverse landscapes and voices in the global scientific arena. Therefore, we particularly appreciate the opportunity to exchange thoughts among co-editors and all co-authors as part of this Editorial, which will undoubtedly stimulate future developments of our journal to better align all of these goals. As we embark on this dual journey of understanding the evolving landscape ecology paradigm and enhancing publishing practices, the publishers, editors, and everyone involved in academic publishing practices need to contribute meaningfully to the progressive trajectory of the field. Publishing practices fostering fair academic partnerships between Global North and South scholars is crucial.

The 2023 11th IALE World Congress in Nairobi, Kenya constituted a pivotal juncture for the global landscape ecology community, highlighting the urgent need for collaborative endeavours not only between the Global North and South but also fostering South-South collaboration. The prevalence of papers addressing the world's most pressing environmental challenges, especially those disproportionately impacting nations in the global South (including climate change, ecosystem services and sustainable development), serves as a clarion call for a more expansive perspective in landscape ecology research in the Anthropocene Epoch of the 21st century. That this call is coming out of the first World Congress to be held in Africa is remarkable in itself, but more so it underscores a salient point in the development of Landscape Ecology. Zev Naveh, one of the early proponents of Landscape Ecology engaged in field work in East Africa, including the Serengeti National Park (Tanzania), Lake Turkana (Kenya) and Karamoja (Uganda) (Olsvig-Whittaker and Seligman 2005). These experiences are fundamental to his advocacy for Landscape Ecology's role in Human Ecosystem Science (Naveh 1982) and "Holistic Landscape Ecology" (Naveh 2000). The odyssey of Africa-IALE from Nebraska (in 2002) to Nairobi World Congress in 2023, was in no small way influenced by Zev Naveh talks and scholarship. The aforementioned shift from theoretical discourse on landscape ecology to a "problem-solving approach" (Naveh 1989) to addressing challenges of the 21st century, calls for an evolution of landscape ecology research that is informed by the Global North and the Global South. Incorporating technological advancements and sociocultural context in the evolution of landscape ecology are not mutually exclusive, but necessary for sound scientific underpinning to support decision making for a better world.

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