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INTERNATIONAL FEDERATION OF LANDSCAPE ARCHITECTS

FUTURE OF LANDSCAPE ARCHITECTURE SERIES:

Setting the Foundations for Resilient Landscapes and Communities

2023

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Setting the Foundations for Resilient Landscapes and Communities

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INTRODUCTION

Introduction: Future of Landscape Architecture

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The roots of the International Federation of Landscape Architects (IFLA) can be traced back to the early 20th century. In 1948, representatives from national landscape architecture associations gathered in Cambridge, England, for the International Conference on Landscape Architecture. The idea of forming an international organisation to promote landscape architecture globally took shape during this conference. The International Federation of Landscape Architects was officially founded in 1948 in Cambridge, marking the establishment of the first worldwide organisation dedicated to landscape architecture. The initial membership included representatives from 15 countries, and Sir Geoffrey Jellicoe became the first president of IFLA. In its early years, IFLA focused on facilitating communication and cooperation between national landscape architecture associations. The organisation worked to promote the profession and exchange knowledge and experiences among professionals from different countries. The IFLA Congress became a powerful platform for landscape architects to gather, share research, present projects, and discuss emerging trends and challenges. The first IFLA World Congress was held in 1949 in Cambridge, and subsequent congresses took place every two years in different host countries. IFLA has played an active role in advocating for landscape architecture as a profession and promoting sustainable development.

Landscape architecture is a profession that focuses on the design, planning, and management of outdoor spaces, integrating art, science, and environmental principles to create functional and aesthetically pleasing landscapes. While we have come a long way, we still have a long journey ahead of us to give the proper recognition that landscape architecture deserves. It has been echoed by many of our member associations, partners, governmental agencies and international bodies that landscape architecture is the profession of the 21st century, and we are well-equipped to deal with the pressures that will define new ways of living and designing for future generations.

As the only international non-governmental organisation representing landscape architects in the world, it's through joint efforts that we keep expanding our knowledge and experience. It's opportune to remind readers that we are not a small profession. IFLA is the body that represents 78 national members and more than 50,000 landscape architects worldwide; however, according to the International

Labour Organization, more than 1 million landscape architects exist worldwide. We need to keep raising awareness of the profession and bringing non-members closer to IFLA. Our mission is to promote the landscape architecture profession within a collaborative partnership of the allied built-environment professions, demanding the highest standards of education, training, research and professional practice, and providing leadership and stewardship in all matters. As a global federation, our allies are international bodies like the United Nations, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Council on Monuments and Sites (ICOMOS), the Food and Agriculture Organization (FAO), the International Union for Conservation of Nature (IUCN), and the World Health Organization (WHO), as well as allied built environment bodies like the International Union of Architects (UIA), the International Society of City and Regional Planners (ISOCARP), the International Federation for Housing and Planning (IFHP), and the World Federation of Engineering Organizations (WFEO), among many others, where our expertise is required around the table to strategise about the future of our planet.

Landscape architects practice a discipline rooted in holistic thinking. We understand the natural environment, the built environment, and the interface between them. And we are prepared to take leadership in shaping outdoor spaces and framing public awareness about them. To do this, we need a strong IFLA that helps promote the profession and expand educational standards so we can train the future generation of landscape architects and facilitate professional development, standards and recognition worldwide. This is a time in human history when landscape architecture has something important to say, and we must be heard.

In this regard, the 2023 IFLA World Council in Nairobi aims to discuss the future of the profession and the organisation. Effective professional organisations evolve and adapt to change and address the needs of their members. At the same time, professional organisations should endure excellent corporate governance, moving away from traditional voluntary contributions by having a strong and well-resourced secretariat. For that to happen, we must diversify our income and present ourselves as a reliable partner to the outside world. We must also look critically at our current constitution and by-laws and ensure those reflect our organisation's identity and operational remit, taking advantage of new opportunities and changing circumstances. This book sets the framework for these discussions.

2. STRATEGIC DIRECTIONS

Strategic Directions: Reframing Landscape Architecture

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While the world has changed a lot over the last 75 years, IFLA continues to serve as a platform for professional collaboration, knowledge sharing, and advocacy, advancing the profession of landscape architecture. Our role in shaping sustainable and resilient environments is still contested and landscape architects across the globe keep fighting the same battles. Pressures of globalisation and urbanisation, threats to sustainability and food security, hazards derived from climate change and sea level rise, the burdens of modern living on our own health and well-being and social justice, and more recently, the pressures resulting from the COVID-19 global pandemic. These issues require us to focus on establishing a joint vision for protecting and nurturing our natural and built environments.

Looking at our history to understand current challenges

Landscape architecture has a rich history that spans centuries, evolving in response to cultural, social, and environmental changes. The origins of landscape architecture can be traced back to ancient civilisations such as Mesopotamia, Egypt, Persia, and China. These cultures incorporated gardens and designed landscapes into urban and rural environments, focusing on symbolism, religious rituals, and practical considerations like irrigation. The ancient Greeks and Romans significantly contributed to landscape architecture. Greek gardens emphasised harmony and balance, featuring elements such as colonnades, fountains, and sculptures. Roman gardens, influenced by Greek designs, were more grandiose, incorporating axial planning, terraces, and water features. During the Middle Ages, landscape design was often integrated with monastic and castle architecture, with enclosed gardens serving practical and spiritual purposes.

The Renaissance witnessed a renewed interest in classical aesthetics, leading to formal gardens characterised by symmetry, geometry, and perspective. The Enlightenment era brought scientific and philosophical advancements that influenced

landscape architecture. The English landscape garden emerged as a reaction against formal designs, emphasising a more naturalistic approach with irregular shapes, sweeping vistas, and meandering paths. This style, championed by designers such as Capability Brown, inspired a shift towards landscape design as an art form, moving the profession away from garden art. With the rise of industrialisation and rapid urbanisation, landscape architecture played a crucial role in urban planning. Public parks, designed to provide green spaces for city dwellers, were created in response to the adverse effects of industrialisation. Frederick Law Olmsted, the father of American landscape architecture, designed influential parks like Central Park in New York City.

Throughout its history, landscape architecture has grown from focusing on gardens and aesthetics to a multidisciplinary field that addresses ecological, social, and cultural considerations. Landscape architecture evolved in the 20th century, focusing on environmental stewardship and integrating modernist design principles. The profession expanded to include urban design, ecological restoration, and sustainable development. Landscape architects today work on diverse projects, ranging from large-scale urban planning to ecological conservation and innovative designs that embrace technology. They consider various factors such as site characteristics, client needs, environmental sustainability, and cultural and historical contexts to design visually appealing and functional landscapes. The profession plays a vital role in shaping the built environment and promoting sustainable and resilient landscapes.

Regional differences support our global action

We see ourselves as a thought leader reaching out and connecting with the profession of landscape architecture globally. We can only do this if we understand the different contexts locally and the needs of our members so we can better represent them globally.

Landscape architecture in Africa is evolving and responding to the continent's unique environmental and social challenges. Landscape architects work on urban design, public spaces, ecological restoration, and community development projects. Professional organisations are quickly forming and playing a significant role in promoting the profession and fostering collaboration. Similarly, the Middle East region has witnessed substantial urban development, including the construction of new cities, urban expansions, and large-scale infrastructure projects. This has increased demand for landscape architects who can create sustainable, well-designed outdoor spaces that complement the built environment.

In North America, landscape architecture has a strong presence and influence through well-established professional organisations. Landscape architects in North America work on various projects, including urban parks, waterfront developments, green infrastructure, residential and commercial landscapes, and ecological restoration. Landscape architecture in South America combines a blend of Indigenous cultures, European influences, and a focus on sustainable design. Landscape architects in South America address urbanisation, ecological restoration, social equity, and natural and cultural heritage preservation issues.

As for Europe, landscape architecture has a long history and is deeply rooted in cultural and ecological contexts. Most of the European countries have their own professional associations. European landscape architects engage in many practice areas, including urban design, master planning, public space design, park design, residential and commercial landscape design, ecological restoration, environmental planning, and landscape management. In addition, landscape architects in Europe actively contribute to developing and implementing policies related to landscape planning, design, and management. They advocate for sustainable practices, green infrastructure, and cultural and natural heritage preservation.

Landscape architecture is gaining prominence in Asia as countries experience rapid urbanisation and seek to create sustainable, liveable cities. China, Japan, and South Korea have seen significant growth in landscape architecture practices, focusing on urban design, ecological restoration, and traditional garden design. Singapore, known for its innovative approaches to green spaces and sustainable urban planning, has become a hub for landscape architecture in the region. In Oceania, Australia and New Zealand have thriving landscape architecture industries. Landscape architects work on diverse projects in this region, including urban renewal, coastal planning, Indigenous landscape design, and ecological conservation.

It's important to note that this overview provides a general perspective, and landscape architecture practices and trends may vary within each region and country. Nonetheless, landscape architecture worldwide shares the common goal of creating sustainable, functional, and aesthetically pleasing landscapes that enhance the quality of life for people and promote environmental stewardship.

Recent milestones

For IFLA to succeed, we need all our members to contribute and work alongside IFLA. Through its strong secretariat and efficient organisational structures, we can provide new opportunities and tackle the changing nature of the world and our profession. As such, it is important to share recent milestones that we all worked hard for, which mainly represent broader trends and achievements in the profession, as specific notable projects or advancements may vary based on regional contexts and developments.

As part of celebrating diversity, the newly approved International Labour Organization (ILO) definition of landscape architecture is far-reaching and holistic, representing the different facets of our work. The ILO is a specialised agency of the UN that focuses on labour issues, employment, and workers' rights, bringing together representatives from governments, employers' organisations, and workers' organisations to shape policies and programmes.

We have also rolled out our new global education recognition and accreditation programme. This will enable the verification of equivalence between different landscape architectural programmes, ensuring that all recognised programmes meet IFLA's global educational standards, making the movement of graduates

less demanding and time-consuming, especially when it occurs across the IFLA-recognised and accredited programmes. We encourage all universities to apply and get the stamp of quality that will be recognised internationally.

In addition, we have been busy securing our global partnerships with UNESCO and ICOMOS and have strengthened our work with several UN agencies. As such, at the last COP27 for Climate Change in Egypt, we persuaded the UN to establish a landscape architecture-led design framework for climate change and adaptation. We've also secured at the last COP15 for Biodiversity in Canada, with the help of the IUCN, the development of a framework based on nature-based solutions that can be applied worldwide.

More recently, we signed an MoU with the International Society for Urban Health, a valuable partner of the World Health Organization, to promote the importance of landscape architecture in urban settings for health and well-being. We have also re-engaged closely with the International Society of City and Regional Planners (ISOCARP) as our sister organisation. While IFLA and ISOCARP have distinct focuses and membership bases, their common interests in sustainable development, urban planning, and the built environment make them natural partners in promoting holistic and integrated approaches to shaping cities and regions.

The UN-Habitat Professionals Forum fully endorsed the International Landscape Convention (ILC) as one of the four key projects for implementation in the next few years. The HPF is the affiliation of international and regional associations whose combined professional expertise is central to promoting and achieving sustainable urban development. The International Landscape Convention started in 2010 as the outcome of a multidisciplinary, cross-sectoral UNESCO expert seminar and was presented directly to the UNESCO Board in 2011. It gained support from many UN Agencies and institutions, including ICOMOS, FOA, UIA, ICCROM, IUCN, ISCOCARP and CBBD, and was supported by the UNESCO Florence Declaration on Landscape (2012), the UNESCO Matera Resolution and the Montreal World Design Declaration in 2017. Since 2010, professional organisations have taken it to create regional versions in place in North America, Latin America, Asia Pacific and Africa (2019), the latter of which formed the basis of the African Landscape Network, subsequently awarded a UNESCO Participation Programmer grant (IFLA).

Current challenges

Despite recent massive progress in our profession, landscape architects face several challenges in the current context. Through the increased sharing of knowledge and expertise between member associations and practising landscape architects, we will be able to tackle most of these global challenges. IFLA plays a critical role as our goal is to connect people, skills and professional knowledge, thereby increasing the presence and capabilities of landscape architects globally.

- **Climate Change and Resilience:** Landscape architects are increasingly tasked with designing landscapes that can withstand the impacts of climate change, such as rising temperatures, extreme weather events, and sea-level rise. We need

to integrate resilient strategies, such as sustainable stormwater management, the use of native plant species, and design for flood protection.

- **Urbanisation and Rapid Development:** As cities expand and urban areas become denser, landscape architects must find innovative ways to create green spaces and improve the quality of urban environments. Balancing the need for development with preserving natural areas and cultural heritage poses a significant challenge.

- **Sustainability and Environmental Stewardship:** There is a growing emphasis on sustainable design practices that minimise resource consumption, promote biodiversity, and reduce environmental impact. Landscape architects must integrate sustainable strategies, such as water conservation, energy-efficient design, use of recycled materials, and enabling ecological connectivity.

- **Community Engagement and Social Equity:** Landscape architects increasingly recognise the importance of engaging communities in the design process to ensure that landscapes meet the needs and aspirations of diverse populations. Addressing social equity concerns, including access to green spaces and the equitable distribution of resources, is crucial in creating inclusive and liveable landscapes.

- **Technological Advancements:** Rapid technological advancements, such as 3D modelling, virtual reality, Geographic Information Systems (GIS), and Artificial Intelligence (AI), are transforming the landscape architecture profession. While these tools provide new opportunities for visualisation and analysis, landscape architects must adapt and embrace technology while maintaining a balance with the artistry and creativity inherent in their field.

- **Policy and Regulation:** Navigating complex regulations, zoning codes, and planning processes can be challenging for landscape architects. We must stay informed about evolving policies and advocate for integrating landscape principles in land-use planning and development frameworks.

- **Education and Professional Recognition:** Ensuring the next generation of landscape architects receives a comprehensive education that encompasses the evolving challenges of the profession is vital. Additionally, advocating for the recognition and value of landscape architecture within the broader design and planning industry is an ongoing endeavour.

- **Ethical and Social Responsibility:** Landscape architects face ethical dilemmas concerning cultural preservation, social equity, and environmental justice issues. Balancing the needs and desires of diverse communities, respecting cultural and historical contexts, and addressing social and economic disparities pose ongoing challenges for the profession.

- **Continuing Education and Professional Development:** Landscape architecture is a dynamic field that requires ongoing learning and professional development. Staying abreast of new research, design methodologies, sustainability practices,

and technological advancements is essential but can be challenging due to time constraints and limited access to relevant resources.

- **Global and Regional Variations:** The challenges faced by landscape architects can vary across regions and countries due to differing contexts, regulatory frameworks, and cultural attitudes towards landscapes. Understanding and navigating these variations while maintaining professional standards and ethical practices is challenging.

By addressing these challenges, landscape architects can contribute to creating sustainable, resilient, and equitable landscapes that enhance the quality of life for communities and protect the environment.

Setting the future of the profession

Landscape architecture is a recognised profession practised in various parts of the world, combining elements of design, horticulture, ecology, and planning to create outdoor spaces that are visually appealing, functional, and sustainable. As a profession, we play a vital role in shaping the built environment and enhancing the quality of life for communities. While the specific approaches and practices may vary depending on cultural, environmental, and social contexts, the fundamental principles and goals of landscape architecture remain consistent.

The landscape architecture profession is expected to evolve in several directions in the future. Below is a summary of the broader trends of the profession reported through international organisations, professional bodies and governmental agencies.

- **Climate Action and Biodiversity:** Given the increasing urgency of climate change, landscape architects will be crucial in designing landscapes that can adapt to and mitigate its impacts. This includes integrating resilient strategies, such as green infrastructure, coastal protection, and urban heat island mitigation, to enhance the resilience of communities and ecosystems.

- **Regenerative Design:** A growing focus on regenerative design goes beyond sustainability by actively restoring and improving ecosystems. Landscape architects will explore ways to create landscapes that minimise harm and contribute positively to the environment, such as through the restoration of degraded ecosystems, carbon sequestration, and promoting biodiversity.

- **Urban Greening and Placemaking:** As cities continue to grow and face environmental challenges, landscape architects will be at the forefront of creating green and liveable urban spaces. They will focus on maximising the use of limited land resources, creating multi-functional green infrastructure, and designing vibrant public spaces that promote social interaction, health, and well-being.

- **Ecological and Biophilic Design:** Landscape architects will increasingly draw inspiration from ecological principles to design landscapes that mimic natural systems and promote ecological health. Biophilic design, which emphasises integrating nature and natural elements into the built environment, will also gain prominence to enhance human connection with the natural world.

- **Digital Tools and Technology:** The landscape architecture profession will continue to embrace and leverage digital tools and technologies. This includes advanced modelling and visualisation techniques, data-driven design and analysis using GIS and remote sensing, artificial intelligence as a generative and iterative tool, and virtual and augmented reality to enhance stakeholder engagement and communication.

- **Social Equity and Inclusive Design:** Landscape architects will continue to prioritise social equity and inclusivity in their designs, ensuring that landscapes are accessible to all and meet the needs of diverse communities. This includes addressing issues of equitable access to green spaces, promoting social cohesion, and incorporating cultural and historical narratives into the design process.

- **Collaboration and Interdisciplinary Approaches:** Landscape architects will increasingly collaborate with professionals from other disciplines, such as architects, engineers, ecologists, and social scientists, to address complex challenges. This interdisciplinary approach will foster innovation, holistic problem-solving, and the integration of diverse perspectives.

The future of landscape architecture lies in creating sustainable, resilient, and inclusive landscapes that address the pressing environmental and social issues of our time. By embracing new technologies, advancing design approaches, and advocating for the profession's value, landscape architects can contribute to creating a more sustainable and liveable world.

Working alongside our partners

International partnerships enable landscape architects and IFLA to leverage diverse perspectives, share expertise, and collaborate on projects that address pressing global issues. Through these collaborations, landscape architecture contributes to sustainable development, biodiversity conservation, and the creation of resilient and equitable landscapes worldwide.

Regarding the initiatives of the United Nations (UN), landscape architecture plays a significant role in addressing the goals and ambitions related to sustainable development, climate change, and biodiversity conservation. The UN recognises the importance of landscapes in achieving a more sustainable and resilient future, in particular through the following programmes:

- **Sustainable Development Goals (SDGs):** The UN has established 17 Sustainable Development Goals, which serve as a global blueprint for a more sustainable and equitable world by 2030. Landscape architecture contributes to several of these goals, including Goal 11 (Sustainable Cities and Communities), by designing green infrastructure, urban parks, and public spaces that promote social inclusion, health, and well-being. Additionally, landscape architecture supports Goal 13 (Climate Action) by designing landscapes that mitigate and adapt to climate change impacts through sustainable stormwater management, urban heat island reduction, and carbon sequestration.

- **United Nations Framework Convention on Climate Change (UNFCCC):** Landscape architecture plays a role in addressing climate change, contributing to climate action by designing landscapes that reduce greenhouse gas emissions, enhance carbon sinks, and promote climate resilience. We integrate sustainable practices such as green roofs, rain gardens, and natural habitats that can mitigate the impacts of climate change.

- **Convention on Biological Diversity (CBD):** The CBD promotes biodiversity conservation and sustainable use. Landscape architects contribute to biodiversity conservation by incorporating native plant species, creating habitat corridors, and designing landscapes that support ecological connectivity. We also work on ecological restoration projects that help restore degraded ecosystems and promote biodiversity.

- **World Heritage Sites and Cultural Landscapes:** UNESCO designates and recognises the importance of cultural landscapes. Landscape architects are involved in preserving and managing these sites, integrating cultural and historical values into their design approaches. We work to balance the conservation of cultural heritage with sustainable development and community engagement.

- **Resilience and Disaster Risk Reduction:** The UN emphasises building resilience to natural disasters and climate change. Landscape architects contribute to resilience planning by designing landscapes that reduce vulnerability to hazards like floods and wildfires. We integrate green infrastructure and nature-based solutions that help absorb and manage stormwater, mitigate the impacts of disasters, and enhance community resilience.

Through our expertise in design, planning, and environmental stewardship, landscape architects actively contribute to achieving UN goals and initiatives. Our work promotes sustainable development, climate action, biodiversity conservation, and creating inclusive and resilient landscapes that benefit both people and the planet.

Landscape architecture often collaborates with international partners to address global challenges and promote sustainable development. These partnerships involve knowledge sharing, capacity building, and collaborative projects. While some of those listed below, IFLA already has ongoing involvement, others are still in our infancy, and we should take a more proactive role soon.

- **International Union for Conservation of Nature (IUCN):** The IUCN is a global organisation that works on nature conservation and sustainable development. Landscape architects collaborate with the IUCN on projects related to ecosystem restoration, biodiversity conservation, and the integration of nature-based solutions into landscapes. IFLA is deeply involved in the work of the IUCN and has a voting status.

- **United Nations Environment Programme (UNEP):** UNEP focuses on environmental issues and sustainable development. Landscape architects partner with UNEP on initiatives related to ecosystem management, climate change adaptation, and the promotion of sustainable urban development. IFLA should take a more active role in the UNEP programme.

- **World Bank:** The World Bank provides worldwide financial and technical support for development projects. Landscape architects contribute to World Bank projects by providing expertise in sustainable urban design, green infrastructure planning, and landscape restoration, particularly in urban resilience, natural resource management, and infrastructure development projects. IFLA should establish a closer connection to the World Bank.

- **Non-Governmental Organisations (NGOs):** Numerous NGOs work globally on environmental and social issues. Landscape architects collaborate with NGOs such as the World Wildlife Fund (WWF), The Nature Conservancy, and Greenpeace to address landscape conservation, biodiversity protection, and sustainable land use practices. Such NGOs should be part of the remit of IFLA, and as such, closer relationships should be established. We're re-ignited our work with the International Society of City and Regional Planners (ISOCARP) and started to work actively with the International Society for Urban Health (ISUH).

- **Academic Institutions and Research Networks:** Landscape architecture programmes and research centres often collaborate internationally with universities and research institutions. These partnerships facilitate the exchange of knowledge, research findings, and best practices in landscape architecture, fostering innovation and advancing the profession's understanding of global challenges. We're now working closely with the European Council of Landscape Architecture Schools (ECLAS), the Council of Educators in Landscape Architecture (CELA) and the newly formed RAEAP (Red Americana de Educacion en Arquitectura del Paisaje) through the IFLA Education and Academic Affairs Committee.

Key actions for IFLA

The ongoing environmental changes and their widespread effects are daily reminders that nature-based solutions and landscape architecture are the way forward. We are now facing critical challenges, including the depletion of natural resources and loss of biodiversity, the impact of climate change and rising sea levels, increasing population and urbanisation, outdated infrastructure, the expansion of digitalisation and

emerging technologies, and social segregation and its effects on mental health and well-being. These are some of the difficulties that professionals and academia must confront.

As a profession and as a professional organisation, we need to focus on the big picture and be recognised as a thought leader. We should be seen as the interface where landscape architects come to establish and develop their networks, expand their ideas and meet like-minded people. In this way, we all have an important role to play. To achieve success, we'll need to follow these three pillars:

- **Excellent Corporate Governance:** IFLA has achieved a stable organisational structure and strong financial accountability and resources. We've monthly KPIs in place aligned with our Annual Business Plan. Our purpose remains at a global level where we can be effective and make a difference.

- **Key Services to our Members:** The services and projects we deliver to our members are valued and make a difference to the organisation, recognition or practice of landscape architecture. We keep investing in communications through our website and social media, nurturing existing and forging new partnerships, and aligning our core activities with the SDGs.

- **Raising the Profile of the Profession:** IFLA operates happily in a working environment with diversity in language, culture and practice. We aim not to achieve a homogenous view of landscape architectural practice but to celebrate differences and promote a deeper understanding of our profession. IFLA will keep raising the profile of the profession internationally.

The challenges faced by landscape architects can vary across regions and countries due to differing contexts, regulatory frameworks, and cultural attitudes towards landscapes. Understanding and navigating these variations while maintaining professional standards and ethical practices is challenging. We're now working on global professional standards and registration, allowing landscape architects to travel and enrich their knowledge with other ways of thinking and doing. In addition, we keep working alongside the many projects that global and intergovernmental organisations have to increase the visibility and advocacy of landscape architecture.

IFLA is also working hard with emerging countries to assist them in establishing cutting-edge educational programmes that can address our future challenges. We also aim to bring our academics closer to IFLA. We need academia and professional practice to co-exist as a global professional organisation. Similarly, we must forge stronger alliances with the landscape contractors' industry and construction firms to ensure project implementation is of the highest standard possible. In this regard and under Category D of our membership, we now welcome landscape architectural firms, industry-related companies, governmental departments, agencies, and universities to join us. IFLA is a knowledge hub where members can share expertise and propose new ways of doing things.

For IFLA and the profession to be competitive globally, we need to provide a unified global platform for landscape architects to collaborate, share knowledge,

advocate for the profession, set standards, and promote sustainable and innovative approaches to designing and managing the built environment. IFLA serves as a catalyst for professional growth, international cooperation, and the advancement of landscape architecture as a critical discipline for a better world. To accomplish that, as a professional organisation, we should focus on the following pillars:

1. **Climate action and biodiversity**
2. **Health, well-being and nature-based solutions**
3. **Community participation**
4. **Technology and evidence-based design**
5. **Food security**
6. **Traditional knowledge and Indigenous practices**
7. **Global professional standards**

The success of IFLA depends on the success of all of our members. The next pages provide an overview from key leaders in each topic to situate us where and how well prepared we are to tackle those issues as a profession. Some of these papers will be the base for the workshops at the IFLA World Council in Nairobi. By focusing on these areas, IFLA can maintain its relevance, influence, and competitiveness worldwide while effectively serving the needs of landscape architects and advancing the profession's impact on the built and natural environment.

3.

LEADING THE CHANGE

Call for Action: IFLA Climate Change and Biodiversity Working Group (IFLA CCB)

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Over 70,000 landscape architects around the world are taking action as global citizens to limit planetary warming to 1.5° C.

In 2021, the Intergovernmental Panel on Climate Change (IPCC) reported on the looming global warming crisis and the resultant impacts it will have on environments and communities throughout our world. As a response, IFLA launched the IFLA Climate Action Commitment with the belief that landscape architecture is a critical component to solving the climate crisis in the reduction of emissions, in the resilience and transformation of human society, and in ensuring the sustainability of the natural environment.

As a creative discipline, we bring expertise on Nature-based Solutions, technological innovation, and strategic thinking that deliver for nature and people. We accelerate city afforestation to sequester carbon, generate urban biodiversity, and protect cities from extreme heat – a growing threat to human survival. Beyond urban environments, we work at all scales: global, regional, local, and human, to strengthen, protect and enhance the wider functional ecosystems. Landscape architects deliver climate solutions at scales that matter.

As our mission, landscape architects are uniquely qualified to help prevent catastrophic global environmental and societal breakdowns. Through planning, design, and management, our work protects and repairs global ecosystems; fosters human health, well-being, and happiness; cools the environment and draws down atmospheric carbon.

Through the IFLA Climate Action Commitments (the 6 commitments), we commit to:

1. **Advancing the UN SDGs**
2. **Attaining global net zero carbon emissions by 2040**
3. **Enhancing capacity and resilience of livable cities and communities**
4. **Advocating for climate justice and social well-being**
5. **Learning from cultural knowledge systems**
6. **Galvanizing climate leadership**

It is now time to Act. IFLA is asking for your support and your actions at the IFLA World Congress in Kenya.

Action 1:

What is a commitment that your national association will commit to with IFLA and all national members that will be completed in 1 year?

As the climate crisis is escalating, what is the critical role of landscape architecture in the role of the climate crisis? IFLA's President and the IFLA Climate Change and Biodiversity Working Group ask for one commitment to action from your national association's profession. Within the 6 Commitments, we will reconvene at the IFLA World Congress in Kenya and host a workshop with all national associations. Your commitment to action and its realized impacts will be shared at the IFLA World Congress in 2025.

Action 2:

Please share a selected landscape architect climate champion from your jurisdiction and their effect on climate adaptation activities. We may then invite them to be part of our IFLA Climate Change and Biodiversity Webinar, the annual webinar that our working group hosts.

Action 3:

Could you share one of your nation's landscape architecture-built best practices, projects, or cultural landscape strategies from your jurisdiction that IFLA can feature and apply to be part of UN landscape architecture Nature-based adaptation implementation guidelines?

As landscape architects, we are champions of Nature-based Solutions. It is now time for us to amplify our impact and implementation in all regions and conditions as we are currently collaborating with the UN National Adaptation Plan (UN NAP), aiming to help regions and localities become resilient and adapt to the impacts of climate change.

Society needs new approaches to decision-making, progressive policies, and a universal commitment to innovative ideas. It is now time for each national member to submit exemplary projects, including design-build best practices and cultural landscape architecture that embodies practices of the wisdom of the land that are relevant to tackling the climate crisis together.

The project submittal categories include:

- **Flood;**
- **Drought;**
- **Urban heat;**
- **Coastal erosion;**
- **Sea level rise;**
- **Decreased agricultural and fishery yields;**
- **Landslides;**
- **Human settlement;**
- **Security.**

We ask that each national association submit at least one 1 project and no more than 3.

Through our partnership with UN NAP, we will select and include best practices from around the world to acknowledge the power of landscape architecture as a tool for tackling climate change.

Thank you for your kind consideration and collaboration. This is an urgent issue and we appreciate your committed actions. Please provide documentation regarding all 3 of your actions at the link on the following page.

Please submit before the 15th of September 2023 to your regional climate and biodiversity chairs. Stay tuned for further information and we look forward to seeing you and your actions in Kenya.

With our commitment to Action,

The IFLA Climate Change and Biodiversity Working Group

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The Responsibility of Landscape Architecture for Protecting, Restoring, and Sustaining Biodiversity, Locally, Nationally and Globally

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> *The biosphere, upon which humanity as a whole depends, is being altered to an unparalleled degree across all spatial scales. Biodiversity – the diversity within species, between species and of ecosystems – is declining faster than at any time in human history.*
>
> (IPBES, 2019, p. XIV)

Background

In 2019 in Oslo, recognizing the clear evidence from the Intergovernmental Panel on Climate Change (IPCC), the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), and the International Union for the Conservation of Nature (IUCN), the World Council of the International Federation of Landscape Architects (IFLA) declared a global climate and biodiversity emergency (IFLA, 2019).

Even before the global warming crisis was recognized, the world's ecosystems had been experiencing unprecedented deterioration across all continents and in all oceans. The Millennial Ecosystem Assessment concluded that:

> *Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fibre, and fuel. This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.*
>
> (MEA, 2005, p. 1)

The MEA report also reported that 60% of the ecosystem services necessary for human well-being were being degraded or used unsustainably. These changes were increasing the likelihood of accelerating, abrupt and potentially irreversible changes in ecosystems, changes that would have important consequences for human well-being both now and in the future.

In 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) reported that there had already been an unprecedented decline in natural life, 75% of the land surface of the planet has already been significantly altered, with 66% of our oceans experiencing increasing cumulative impact (IPBES, 2019). Over 85% of our wetland areas are already lost, together with over half of the life cover on coral reefs. Human actions are now threatening more species with global extinction than we have ever recorded, with over one million species already at a growing risk of extinction. These numbers are daunting. Unless transformative changes are made by society, we will also continue to erode the foundations of our economies, livelihoods, food security, health, and quality of life worldwide.

Added to the stresses already resulting in ecological degradation, climate change is seen as a direct driver that will exacerbate existing problems and add new ones. By 2018 the IPCC Special Report on Global Warming of 1.5 °C (IPCC, 2018) warned that unless significant reductions in emissions were attained before 2030, increases in the mean global temperature would surpass 1.5°C. The IPCC concluded that society had only 12 years left in which to make changes to emission levels if the societies and environment of the world were to avoid the anticipated and more severe risks predicted of a 2°C change. The more recent AR6 Assessment Report (IPCC, 2022) concludes that the pace of warming has increased over previous estimates and that impacts are already occurring throughout the globe, especially in observed changes to extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones. Disturbingly, the IPCC reports that climate change has already caused substantial damage and irreversible losses in terrestrial, freshwater, cryospheric, and coastal and open ocean ecosystems. The rate at which global warming and ocean acidification is already happening severely limits the ability of species and ecosystems to adapt. If the world is to avoid catastrophic biodiversity impacts, urgent action to reduce carbon dioxide emissions, to protect ecosystems, to enhance species resilience, and to maintain natural carbon sinks is needed.

The International Union for the Conservation of Nature (IUCN)

While it may more commonly be known as the voice on the extinction of species, the International Union for Conservation of Nature (IUCN), has for over 70 years worked towards a sustainable future for both people and nature. Recognized by the United Nations as the global authority on the status of the natural world, and the measures needed to safeguard it, the IUCN provides a forum for governments and civil society

to work collaboratively to advance sustainable development and to create a just world that values and conserves nature and supports human well-being. The Union has over 1400 Member organizations from States, government agencies, NGOs, Indigenous people's organizations, scientific and academic institutions, and business associations (IUCN, 2023).

There are seven IUCN Commissions that gather the collective intelligence and commitment of over 15,000 scientists and experts from across a range of disciplines around the globe, all of whom volunteer their expertise. Focussed on education; environmental, economic and social policy; environmental law; species survival; ecosystem management; protected areas; and, as of 2022, the climate crisis, these Commissions undertake a vast array of initiatives annually, all intended to better life on earth. The IUCN provides public, private, and non-governmental organisations with the knowledge, tools and projects that enable human societies and economies, at all scales, to thrive together with nature.

NATURE 2030

> *The climate and biodiversity emergencies are not distinct, but two aspects of one crisis. Unsustainable human activity continues to compound the situation and threatens not only our own survival but the foundation of life on Earth. Our response to these emergencies must be mutually reinforcing. - Marseille Manifesto*
>
> (IUCN, 2023)

Nature 2030 IUCN Programme is a 10-year framework intended to mobilize collaborative effort throughout the entire Union to advance the IUCN vision of a just world that values and conserves nature. Adopted by Members in 2021 Nature 2030 outlines six pathways to transformative change that have been summarized below (IUCN, 2021):

- **RECOGNISE** and promote a shared understanding of the interconnected challenges facing the world, including the scales of urgency, the timelines, what can be done, and the role that can be played by all sectors, governments, organisations and individuals.
- **RETAIN** the importance of safeguarding, maintaining and sustainably using the world's biodiversity and natural and cultural heritage, in key biodiversity areas and other intact areas.
- **RESTORE** the condition of species and ecosystems and the benefits that nature provides to people which have already been lost or degraded.
- **RESOURCE** action through funding and investment in nature and in the people working to conserve it.
- **RECONNECT** people to nature so as to enhance a culture of conservation that will align individuals and communities with each other, their heritage and their planet.

IFLA and the IUCN

In 2019, the International Federation of Landscape Architecture (IFLA) was accepted as an international, non-governmental organization Member of the IUCN. Since that time, IFLA has appointed a Special Envoy to represent the Federation at the IUCN and to carry our vote.

Currently, the focus for IFLA within the IUCN has been on the climate crisis and its ongoing and anticipated impacts on natural systems and human communities and the IUCN initiatives to advance nature-based solutions as an initiative to combat degradation and restore and sustain nature.

COP15 and the 2022 Kunming-Montréal

In December of 2022, the 15th Conference of the Parties (COP) on Biological Diversity was held in Montréal, Canada. The CBD has over 196 parties (e.g., nation-states) and seeks to address all threats to biodiversity and ecosystem services. IFLA was well represented at the Montréal meetings and invited to present a panel on the value of partnerships between landscape architecture and the IUCN. The panel, which also included speakers from Canada and the United States, took place at the IUCN Pavilion on December 18 and was well attended.

The Montréal meetings concluded with the adoption of a preparatory process for the development of the Kunming-Montréal Global Biodiversity Framework (GBF) (COP15, 2022). The GBF Framework provides four long-term goals and 23 enabling targets intended to be achieved by 2030.

Key aspects of Framework's four long-term goals have been summarized as:

GOAL A

- *The integrity, connectivity and resilience of all ecosystems are maintained, enhanced, or restored, substantially increasing the area of natural ecosystems by 2050;*
- *Human-induced extinction of known threatened species is halted, and by 2050, the extinction rate and risk of all species are reduced tenfold, and the abundance of native wild species is increased to healthy and resilient levels;*
- *The genetic diversity within populations of wild and domesticated species, is maintained, safeguarding their adaptive potential.*

GOAL B

- *Biodiversity is sustainably used and managed and nature's contributions to people, including ecosystem functions and services, are valued, maintained and enhanced, with those currently in decline being restored, supporting the achievement of sustainable development, for the benefit of present and future generations by 2050.*

GOAL C

- *The monetary and non-monetary benefits from the utilization of genetic resources, digital sequence information on genetic resources, and traditional knowledge associated with genetic resources, as applicable, are shared fairly and equitably, including, as appropriate with indigenous peoples and local communities, and substantially increased by 2050, while ensuring traditional knowledge associated with genetic resources is appropriately protected, thereby contributing to the conservation and sustainable use of biodiversity, in accordance with internationally agreed access and benefit-sharing instruments.*

GOAL D

- *Adequate means of implementation, including financial resources, capacity-building, technical and scientific cooperation, and access to and transfer of technology to fully implement the Kunming-Montreal global biodiversity framework are secured and equitably accessible to all Parties, especially developing countries, in particular the least developed countries and small island developing States, as well as countries with economies in transition, progressively closing the biodiversity finance gap of $700 billion per year, and aligning financial flows with the Kunming-Montreal Global Biodiversity Framework and the 2050 Vision for Biodiversity.*

(CBD, 2023)

The GBF is also empowered by 23 action-oriented global targets intended to spur urgent action over the decade to 2030 (COP15, 2022). They have been focussed on three categories as:

1. **Reducing threats to biodiversity.**
2. **Meeting people's needs through sustainable use and benefit-sharing.**
3. **Tools and solutions for implementation and mainstreaming.**

The targets most applicable to the work of landscape architects fall under Category 2: Meeting people's needs through sustainable use and benefit-sharing – whose Targets include (among others) advancing sustainable use of nature, protecting access by indigenous peoples and local communities, resorting, maintaining and enhancing nature's contributions to people, and increasing the connectivity to and the benefits from green and blue landscapes in urban and densely populated areas. The IUCN, which has demonstrated leadership in nature-based solutions (NbS), also emphasizes the use of ecosystem-based approaches and NbS as methods that offer the best benefits for both people and for nature.

Nature-based Solutions

For almost 200 years, the profession of landscape architecture has sought to bridge the gap between the natural and the built environment. While the profession can trace its origins back to the early 18th century, since 1828, landscape architects

have honed their knowledge and perfected their capacity to design with nature. IFLA understands that ecological health is essential to human well-being and continues to seek partnerships and pathways by which landscape architecture can contribute to sustainability. One of those pathways is through the endorsement of the principles for the application of Nature-based Solutions (NbS).

As defined by the IUCN (Cohen-Shacham et al., 2016, p. 4) Nature-based Solutions are "actions to protect, sustainably manage and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits." NbS offer innovative opportunities to better prepare human society and to meaningfully address multiple sustainability crises (e.g., climate change, food and water security, land degradation, loss of biodiversity, human well-being, and natural disasters). The IUCN has estimated that the use of a bold and integrated approach to the management of these crises, and specifically to the use of nature-based solutions, could result in as much as 30% of the mitigation needed by 2030 to stabilize warming below 30°C, to halt and reverse the loss of nature, and to achieve recovery and restoration by 2050 (IUCN, 2023a, 2023b).

To guide its members and to ensure that NbS are applied effectively and achieve their full potential to address society's challenges, the IUCN has developed definitions, criteria, and guidance (IUCN, 2020a, 2020b). The criteria the IUCN uses to establish whether an initiative is actually an NbS can include the following:

- Effectively addresses social challenges;
- Design is informed by scale;
- Results in a net gain to biodiversity and ecosystem integrity;
- Are economically viable;
- Are based on inclusive, transparent, and empowering governance processes;
- Equitably balances trade-offs between achievement of their primary goal(s) and the continued provision of multiple benefits;
- Are managed adaptively, based on evidence; and
- Are sustainable and mainstreamed within an appropriate jurisdictional context.

Most landscape architects will recognize these criteria as similar to the standards they use when working with nature in everyday practice.

Why Us?

Landscape architects understand that our greatest contributions to ensuring a prosperous future are vested in the creation of human societies characterized by an enhanced capacity for resilience, a willingness to transform to a better state, and a commitment to ensuring the long-term sustainability of environments, cultures, and well-being. Together with allied planning and design professionals, natural scientists, sociologists, and economists, we continue to advocate for innovative approaches to low-carbon community development and management, and for the protection and enhancement of natural systems with an emphasis on the integration of the natural

environment into human communities through blue/green infrastructure projects and an enhanced urban canopy. As self-described stewards of the environment and perhaps more pertinently as architects for nature, we can and must do our part locally, nationally and internationally to protect and restore biodiversity, sustain ecosystem services, and advance resilience and well-being in human society across the globe.

While the Nature 2030 pathways, the COP15 GBF and the standards for employing ecosystem-based approaches and nature-based solutions may be well-known to ecologists and those working to conserve and protect our wild, they are less familiar to decision-makers in industry, urban planning, and design, and management of human infrastructure and communities. Too much of society still relies on 'business as usual' principles and practices developed in the eighties and earlier. Too little work has been done to retain or to restore, and unfortunately, in today's political reality, the threats to earlier resource investment in greenspace are growing. Daily, colleagues from planning, landscape architecture, architecture and engineering fight battles with clients, regulators, and decision-makers to advance progress on ALL of these pathways. But too often their voices are insufficient to effect change in the battles between the economy and the environment. They need help.

The International Federation of Landscape Architects can provide unique assistance both within the profession and externally to international, national, and local organizations fighting to reverse the decline in biodiversity, protect the wild we have left, to restore and enhance even tiny urban and rural landscapes to sustainable function. IFLA needs to take a further stand on biodiversity and challenge all its members and the landscape architects they represent to take up the IUCN challenge and become a working champion for biodiversity throughout the globe.

References

CBD. (2023). COP 15: *Final text of Kunming-Montréal global biodiversity framework.* https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222.

Cohen-Shacham, E., Walters, G., Janzen, C. & Maginnis, S. (Eds.) (2016). *Nature-based solutions to address global societal challenges.* IUCN. https://portals.iucn.org/library/sites/library/files/documents/2016-036.pdf.

COP 15. (2022). *Kunming-Montréal global biodiversity framework.* Conference of the Parties. CBD/COP/15/L.25. https://www.cbd.int/doc/c/e6d3/cd1d/daf663719a03902a9b116c34/cop-15-l-25-en.pdf.

IFLA. (2019). *Oslo declaration of the world council on the climate and biodiversity emergency.* https://www.iflaworld.com/newsblog/ifla-declares-a-climate-and-biodiversity-emergency.

IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the intergovernmental science-policy platform on biodiversity and ecosystem services.* IPBES Plenary at its seventh session (IPBES 7, Paris, 2019). https://doi.org/10.5281/zenodo.3553579

IPCC. (2018). Summary for policymakers. In: *Global warming of 1.5°C. An IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (pp. 3-24). Cambridge University Press. https://doi.org/10.1017/9781009157940.001.

IPCC. (2022). Summary for policymakers. In: *Climate change 2022: Impacts, adaptation, and vulnerability. Contribution of working group II to the sixth assessment report of the intergovernmental panel on climate change* (pp. 3-33). Cambridge University Press. https://doi.org/10.1017/9781009325844.001.

IUCN. (2020a). *Global standard for nature-based solutions. A user-friendly framework for the verification, design and scaling up of NbS* (1st ed.). https://doi.org/10.2305/IUCN.CH.2020.08.en.

IUCN. (2020b). *Guidance for using the IUCN global standard for nature-based solutions. A user-friendly framework for the verification, design and scaling up of nature-based solutions* (1st ed.). https://doi.org/10.2305/IUCN.CH.2020.09.en.

IUCN. (2021a). *Nature 2030. One nature, one future.* https://portals.iucn.org/library/sites/library/files/documents/WCC-7th-001-En.pdf.

IUCN. (2021b). *IUCN Director General's statement for the UN biodiversity conference.* https://www.iucn.org/news/secretariat/202110/iucn-director-generals-statement-un-biodiversity-conference.

IUCN. (2023a). https://www.iucn.org/TH

IUCN. (2023b). *Climate change.* https://www.iucn.org/our-work/climate-change

MEA. (2005). *Ecosystems and human well-being: Synthesis report.* Millennium Ecosystem Assessment. Island Press. https://www.millenniumassessment.org/en/Synthesis.html

Landscape Architects are Healthy Places Changemakers

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Landscape architects create a critically important natural infrastructure that shapes our experiences in the physical environment. Landscape architecture and public health grew together as professions out of an urgent need to change our environments to enhance and improve health rather than damage it. As evidenced by a significant body of research, urban landscapes especially have the potential to dramatically improve health, wellbeing and equity when strategically considered from the initial design phase. As protecting health, safety, and welfare are a core tenant of the landscape architecture profession, we are calling on all landscape architects around the world to realize their professional duty to protect and enhance human health, wellbeing and equity through their practice—the results of which have the potential to dramatically improve billions of lives around the world and enable entire communities to mitigate and adapt to the impacts of climate change, one of the world's greatest public health challenges.

Landscapes and Health Have Always been Allied Professions with Mutual Goals

The field of landscape architecture emerged out of an urgent need to transform physical environments to improve resident health – lack of sanitation, potable water, greenery, and access to fresh air was killing people in turn of the 19th-century cities and landscapes offered a brief respite where people could breathe, and congestion was eased. As such, the two disciplines have always been closely intertwined – well-designed public landscapes mean healthier populations. Examples abound, but we

can lean on New York City's experience for a historical perspective: when churchyards, where people were historically buried, began to fill up, Greenwood Cemetery was built in 1838 as the first "rural cemetery" and as a place to memorialize the dead as well as bring "to life the art, history, and natural beauty of New York City" (The Green-Wood Historic Fund, n.d.). Designed by David Bates Douglass, and relying heavily on the existing landscape, it became so popular as a public space that by the early 1860s, it counted about 500,000 visitors a year and inspired the development of public parks such as Central Park and Prospect Park (The Green-Wood Historic Fund, n.d.). The site that would become Central Park was in part designated by the location of the receiving reservoir of the Croton Aqueduct System, dedicated in 1842 and built as a result of the cholera outbreak of 1832, to provide potable water to city residents who, at the time lived mostly south of 14th street in Manhattan (Warsh, 2020; Sain-Baird, 2017). Frederick Law Olmsted, who lost his first child to cholera, formulated a view of the importance of public spaces on public health – it was critical for city-dwellers to visit parks often to fill their lungs with fresh air (Warsh, 2020). Although Olmsted's understanding of disease transmission was not complete since modern epidemiology was beginning to emerge in the 1850s, there was a widespread belief that parks could serve as "lungs for the city" where "overcrowded cemeteries, polluting industries, and densely packed residences all existed in close proximity and with limited access to fresh water and proper sanitation" and as such propagated disease (Warsh, 2020). As past pandemics showed us, and our recent experience with the COVID-19 pandemic reminded us, active, safe, well-designed public landscapes are vital to every sense of health and wellbeing, and, importantly, those most vulnerable gain the most benefit.

Exposure and Access to Natural Landscapes are Essential Public Health Services

Interaction with nature is consistently shown to be one of the most effective medicines for warding off depression and anxiety, strengthening the immune system and promoting cognitive restoration. A significant body of research points to additional health benefits of exposure to nature regardless of occupation, ethnic background, wealth, chronic illnesses, or disability status. These studies have shown that time in nature — as long as people feel safe — can act as an antidote to stress: it can lower blood pressure and stress hormone levels, reduce nervous system responses, enhance immune system function, increase self-esteem, reduce anxiety, and improve overall mood (White et al., 2019). Countless studies have found that spending even a small amount of time in nature offers important positive psychological benefits such as decreased negative thinking, mental fatigue and aggression and has been shown to improve cognitive development, attention and learning capacity (Berman et al., 2008). Moreover, access to greenspace, parks and nature is an equity issue—not everyone has equitable access to a backyard, sunny terrace, garden, or greenery at home. This became abundantly clear for children during the pandemic who were staying home from school and therefore missing their usual access to greenspace—they stood to lose most of the exact types of benefits parks offer while coping with a crisis. The COVID-19 pandemic demonstrated that it is critical not to close down parks but rather to keep parks and greenspaces open and available to the public while adhering

to measures that promote safe behaviour in light of relevant disease transmission epidemiology.

With all these benefits, it is in every neighbourhood, town, and/or city's interest to offer abundant greenspace to their inhabitants. However, it is not easy to know what guidelines might be appropriate to follow for maximum positive impact on health. The Nature-Based Solutions Institute promotes the 3-30-300 rule to be adopted as a rule of thumb for urban forestry: a person should see 3 trees from their home, there should be 30% tree canopy cover in every neighbourhood, and the maximum distance to the nearest public park or green spaces should be 300 meters (The 3-30-300 Rule for Healthier and Greener Cities, n.d.). A study by ISGlobal evaluated the validity of the 3-30-300 rule in Barcelona and found that residential surrounding greenness "was significantly associated with better mental health, less medication use, and fewer psychologist or psychiatrist visits" (Nieuwenhuijsen et al., 2022). Another initiative, launched by the Trust for Public Land in 2022 has announced an inaugural cohort of cities across the United States that will address the lack of parks by focusing on interventions that will provide a park within a 10-minute walk for all residents (Trust for Public Land, 2022). Where implemented, each of these guidelines would have tremendous benefits. However, access globally is severely lacking and falls short of meeting this benchmark, representing an important equity issue for those who live in neighbourhoods and cities that provide inadequate greenspace access and exposure for some but not all residents. Therefore, we at the International Society for Urban Health (ISUH), in the name of advancing and improving urban health around the world, implore landscape architects to recognize their power as drivers of health transformation through landscapes—no matter how small the scale—providing safe, active, public places for all residents to interact in nature as a key tenet of each project can have a tremendous impact on health, wellbeing and allow residents and communities to thrive.

The Benefits of Physical Activity Outdoors

There is consensus among public health experts regarding the tremendous benefits of physical activity. Research has shown that even small doses of physical activity, such as a 20-minute walk, can help us reduce stress and anxiety, improve mental and emotional health, improve the immune system, and reduce inflammation. Physical activity can also help to control chronic conditions (such as hypertension, health disease, diabetes, etc.), and several studies indicate that each session of exercise produces a substantial release of chemicals that boost immunity and reduce inflammation. Getting physical activity indoors is a start—especially if you have the luxury of space to do so—but not all buildings have ample ventilation or filtration systems to ensure a dilution of indoor air contaminants, and some recirculate some air, which has been shown to lead to a higher risk of disease transmission, especially relevant during outbreaks, such as COVID-19.

Taking your exercise outdoors provides multiple benefits, including improved ventilation, reduced transmission of disease, decrease in mental distress that is as effective as medications and psychotherapy, and a production of feelings "compounds

that improve the functioning of the immune system and bring inflammation under control" (Horton, 2020). These effects occur whether walking, biking, running, or engaging in other activities, and it can be especially important for children to have spaces to safely play outside and allow seniors social interaction while engaging in walking or strolling. Although many reasons are cited for not getting physical activity outside, safety is a primary concern and an important equity issue. A meta-analysis conducted in 2018 cited perceived safety concerns as well as objectively measured high-crime areas as having 28% reduced odds of getting physical activity (Rees-Punia et al., 2018). A different study in 2017 evaluated physical activity levels of youth in neighbourhoods with low-perceived safety and found 21% reduced odds of being physically active, with team sports being an important outlet to combat safety concerns (Lenhart et al., 2017). Beyond crime, factors that reduce physical activity include limited access to greenspace, damaged sidewalks, and unappealing aesthetics, among others (Lenhart et al., 2017). Importantly, studies in different contexts indicate that this is a global problem that could be addressed through deliberate design decisions to encourage even small amounts of safe physical activity outdoors.

Combatting Isolation and Loneliness with Nature

On May 1st, 2023, the US Surgeon General named loneliness, isolation, and lack of connectivity a public health crisis, which was most certainly exacerbated by the COVID-19 pandemic, but predates it (U.S. Department of Health and Human Services, 2023). The health advisory states that "disconnection fundamentally affects our mental, physical, and societal health" and that it includes an increased risk of heart disease by 29%, increased risk of stroke by 32%, increased risk of developing dementia by 50%, and increases the risk of premature death by 60% (U.S. Department of Health and Human Services, 2023). Loneliness and isolation significantly impact mental health, such as doubling the risk of developing depression in adults. For children, it increases the risk of developing depression and anxiety immediately and in the future (U.S. Department of Health and Human Services, 2023). Surgeon General Murthy suggests that addressing loneliness and isolation is critical to addressing the American mental health crisis and that the primary "remedy" for this is social connection.

The opportunity for landscape architects to facilitate social connections to improve health through their work is tremendous. Spaces to pause, sit, observe, or have chance encounters can afford connectivity in a meaningful way. Public spaces are the built environment's contribution to this remedy. An infographic created by the surgeon general's office entitled "Six Pillars to Advance Social Connection" names "Strengthen Social Infrastructure in Local Communities", and, more specifically "design the built environment to promote social connection" as the first pillar (U.S. Department of Health and Human Services, n.d.). Armed with the knowledge about the human health impacts of public spaces outlined above, it is impossible to remain neutral throughout the design and construction process. We can seize the opportunity to make meaningful positive change that facilitates positive social epidemiological outcomes through landscape design.

Healthy Landscapes in Urban Settings Fight Climate Change

Most landscape architects will be well-versed in adaptation and mitigation strategies to combat climate change through their work. These strategies address biodiversity loss, drought, extreme precipitation, extreme heat, fire, flooding, stormwater runoff, and landslides. Policies are being implemented to speed up the adoption of these interventions, and rating systems are in place to encourage more sustainable methods.

Mainstream urban development practice has led to immense urban sprawl, dangerous expanses of impermeable surfaces, deforestation, heat islands, air pollution, and unsafe public spaces and streets, among other consequences. These environmental conditions have major impacts on human health. Air pollution is associated with asthma and cardiovascular disease; extreme heat contributes to cardiovascular failure and heat-related illness and death; and severe weather, like flooding, causes injuries and fatalities and can have immediate and long-lasting impacts on mental health (Centers for Disease Control and Prevention, 2022). The built environment is a critical intersection between climate-related environmental changes and effects on human health. To combat asthma and cardiovascular disease, landscape architects can design places with vegetation that sequesters carbon, improving air quality. Strategies that reduce the heat-island effect, such as green roofs, shading building surfaces, and adding trees, can reduce cardiovascular failure and heat strokes caused by extreme heat. Where possible, these strategies can be used cooperatively. Depending on the severe weather experienced in a particular locale, design solutions can be applied to the landscape to slow down its impact on urban environments. Flooding mitigation strategies abound and can minimize the impact on human health from injury, fatality, and mental health concerns by decreasing the sudden onset of large volumes of water, and in turn, damages to people's homes or displacement, impacting mental health. These measures can also protect potable water systems from overflowing sewers, for example, which cause significant concerns to public health.

What is outlined above are only a few targeted examples of the relationship between the effects of climate change, its impacts on health, and how landscape architecture can decrease the impact of climate events and protect human health in the process. Countless evidence-driven approaches can improve human health and create more climate-friendly cities, such as designing compact, connected, walkable communities and places where active transportation methods are available and high frequency. A locally tailored, place-led approach will benefit local ecosystems, residents, and infrastructure.

A Call to Action: Landscape Architects must Embrace their role as Urban Changemakers to Advance Global Public Health and Wellbeing through Design

Landscape architecture was born out of a need for cities to improve the health and wellbeing of people. One of the core principles of the profession of landscape architecture is a dedication to the public health, safety, and welfare of the general population. Landscape architecture professionals, therefore, are mindful of their important role in shaping the natural environment to support and improve public health and health equity. We want to remind landscape architects across the world of their deeply rooted responsibility to design landscapes that enhance health and wellbeing and call on each of you to act as changemakers in global public health, especially in the face of climate change and growing inequity. The World Health Organization (WHO) calls for the creation of "health in all policies" to consider the wide breadth of disciplines that determine people's comprehensive health. Subsequently, we challenge all landscape architects to embed "health in all landscapes" to ensure that action to support and improve human health is purposeful, preventative, healing and therapeutic. There is no other profession that can claim to have the potential for such widespread impact—we call on you to take action to embody this opportunity and make a conscious change in the way to practice your trade today to improve the health and wellbeing of all people, in all cities tomorrow. You have the power and hold the key to a better urban future for us all.

References

Berman, M. G., Jonides, J., & Kaplan, S. (2008). The cognitive benefits of interacting with nature. *Psychological Science, 19*(12), 1207–1212.

Centers for Disease Control and Prevention. (2022, April 25). *Climate effects on health.*

Horton, B. (2020, March 25). *Staying active while we practice social distancing.* Circuit Trails. https://circuittrails.org/blog/staying-active-while-we-practice-social-distancing

Lenhart, C. M., Wiemken, A., Hanlon, A., Perkett, M., & Patterson, F. (2017). Perceived neighborhood safety related to physical activity but not recreational screen-based sedentary behavior in adolescents. *BMC Public Health, 17*(1), 722. https://doi.org/10.1186/s12889-017-4756-z

Nbsi.Eu. (n.d.). *The 3-30-300 rule for healthier and greener cities.* https://nbsi.eu/the-3-30-300-rule/

Nieuwenhuijsen, M. J., Dadvand, P., Márquez, S., Bartoll, X., Barboza, E. P., Cirach, M., Borrell, C., & Zijlema, W. L. (2022). The evaluation of the 3-30-300 green space rule and mental health. *Environmental Research, 215*(2). https://www.sciencedirect.com/science/article/pii/S0013935122017145

Rees-Punia, E., Hathaway, E. D., & Gay, J. L. (2018). Crime, perceived safety, and physical activity: A meta-analysis. *Preventive Medicine, 111*, 307–313. https://doi.org/10.1016/j.ypmed.2017.11.017

Sain-Baird, J. (2017, October 5). *Meeting New York City's demand for water.* Centralparknyc.org. https://www.centralparknyc.org/articles/water-central-park

The Green-Wood Historic Fund. (n.d.). *Our story.* Green-wood.com. https://www.green-wood.com/about-history/

Trust for Public Land. (2022, July 7). *Trust for public land launches park equity accelerator.* https://www.tpl.org/media-room/trust-public-land-launches-park-equity-accelerator

U.S. Department of Health and Human Services. (n.d.). *The six pillars to advance social connection.* https://www.hhs.gov/sites/default/files/sg-social-connection-graphic-pillars.pdf

U.S. Department of Health and Human Services. (2023, March 5). *New surgeon general advisory raises alarm about the devastating impact of the epidemic of loneliness and isolation in the United States.* https://www.hhs.gov/about/news/2023/05/03/new-surgeon-general-advisory-raises-alarm-about-devastating-impact-epidemic-loneliness-isolation-united-states.html#:~:text=Vivek%20Murthy%20released%20a%20new,experiencing%20measurable%20levels%20of%20loneliness.

Warsh, M. (2020, June 26). *How public health influenced the creation, purpose, and design of Central Park.* Centralparknyc.org. https://www.centralparknyc.org/articles/how-public-health-influenced-the-creation-purpose-and-design-of-central-park#:~:text=While%20there%20were%20many%20motivations,congestion%20of%20the%20growing%20City.

White, M. P., Alcock, I., Grellier, J., Wheeler, B. W., Hartig, T., Warber, S. L., Bone, A., Depledge, M. H., & Fleming, L. E. (2019). Spending at least 120 minutes a week in nature is associated with good health and wellbeing. *Scientific Reports, 9.* https://www.nature.com/articles/s41598-019-44097-3

Landscape Architecture's Role and Responsibility in a Contested World

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Abstract

There is an urgent need for ongoing discussion about the role of landscape in society and the provision of relevant insights and knowledge to address demanding situations at a time when global environmental and economic challenges are fueling rising social tensions. The number of landscapes in peril has increased in today's contested world. Conflicts and natural disasters disrupt daily life, wreak havoc on the environment, and propel new development. Those emergency landscapes display a variety of physical and social alterations that reflect the emergency's effects. Destruction of infrastructure and buildings, population relocation, and alterations to land use patterns are examples of material changes. Changes in society can include the disintegration of social networks and institutions, the displacement of populations, and the modification of cultural practices and norms. This position paper aims to state the role and responsibility of the landscape architecture profession in a contested world characterized by the larger context of emergency and disaster management, especially as it pertains to the most at-risk populations.

Key words: landscape architecture, contested world, role, responsibility, disaster, conflict

Introduction

Several communities in nations where multiple layers of global political imbalance have shaped inequity, vulnerability, socio-economic disparities, and conflicts are plagued by daily crises. Instability, material and immaterial devastation, displacement, homelessness, hunger, and insecurity characterize the precarious situation of millions across the globe. These issues are causing a societal shift and the formation of entirely new landscapes that combine old and new narratives and memories. Moreover, conflicts, natural disasters, food insecurity, and the effects of climate change – droughts, floods, starvation, soil depletion and poverty, and wildfires – are aggravating socio-environmental degradation and widening disparities. The ongoing wars in

Ukraine, Ethiopia, Myanmar, and Sudan, and internal conflicts in many other parts of the world threaten international stability, claim human lives, displace communities, and cause widespread and severe environmental damage with long-term effects on ecosystems and human health. Therefore, recovery, reconstruction, and resilient adaptation to vulnerabilities have emerged as critical concerns for the planning disciplines involved in the post-disaster development of future sustainable scenarios.

Furthermore, there is an urgent need to account for the 100 million people who have been forced to relocate in the last ten years due to global disasters and conflicts. Indeed, emergencies and wars have significant social and human consequences for landscapes. In crisis and conflict zones, the displacement of populations, the loss of means of subsistence, the disruption of social structures, and the modification of cultural practices are examples of some of the effects of emergencies on communities and societies. As a result, investigating the social and human consequences of disasters and conflicts on landscapes has become critical, especially concerns affecting vulnerable communities, human rights, and social justice.

Landscape Architecture in a Contested World

According to the International Federation of Landscape Architects, landscape architects are responsible for designing "globally sustainable and balanced living environments for the benefit of humanity on a global scale" (IFLAWorld, 2023). Landscape architects are trained to comprehend the environmental factors, political forces, and cultural traditions that shape the land and generate responses to various types of conflict. Moreover, landscape architects can influence the restoration and reconstruction of the planet's ecological systems and how we inhabit, produce, and navigate landscapes.

Recent years have seen a rise in discussion about how design and innovation can help mitigate the effects of disasters and war. Shelter, infrastructure, and services are areas where humanitarian design and innovation can help those in need during a crisis or conflict. Moreover, it has been proven that design can provide both an innovative insight into the complexities of disaster-risk reduction and recovery and a conceptual bridge to new approaches to creating socio-economic and physical resilience in disaster-affected communities (Keenan 2018). The design and planning of landscapes in a contested world require an approach that is sensitive to the needs and situations of the vulnerable and affected communities while at the same time considering the unique opportunity the crisis in itself represents. Therefore, defining liminal paths between humanitarian design, the right to shared landscapes, and community well-being appears crucial. And landscape architects are ready to contribute to the above while trained to serve humanity.

The profession plays a significant role in designing resilient landscapes, creating safe and accessible spaces, supporting community development, post-disaster recovery and reconstruction, designing sustainable and resilient infrastructures to mitigate environmental impacts, creating livable environments for displaced and migrants, and

addressing social equity and inclusion. Moreover, landscape architects can also engage in advocacy and policy development efforts.

Landscape Architecture's Role and Responsibility

Global challenges have forced us to reconsider our connection with our planet. Certain concepts, such as boundaries and predictability, have been rethought, necessitating a shift in the role and responsibility of design disciplines and landscape architecture. The landscape is envisioned as a series of shifting nodes of interaction driven by dynamic temporal interactions. (Hill, 2020). Landscape architects must thus have a holistic and systemic knowledge and understanding of the landscape in time and place, as well as the constraints and driving forces to which landscapes are subjected. This involves not just specialized knowledge from a wide range of disciplines but also the interests of the public (de Vries et al., 2021).

Landscape architecture has an important role and responsibility in shaping our future. Landscape architects are committed to advocating sustainable and equitable design solutions that enhance the quality of life for all people and protect the integrity of ecosystems in a world of insecurity, uncertainty, and ongoing conflicts and natural disasters. To confront those challenges, cities worldwide have set the goals to become resilient, acquiring the ability to respond quickly and recover from disasters. However, certain cities, challenged with persistent violent conflicts, have to confront and decide between long-term resilience and adaptation and the resolution of the destructive impacts of conflict. To increase resilience, the landscape profession is prepared to contribute to all phases of disaster planning: preparation, response, recovery, and mitigation. Preparedness is anything that may be done before a disaster strikes to minimize damage and loss of life. While we cannot forecast wars, we acknowledge that they have become more multifaceted. Their interconnectedness with other crises, such as climate change, increases fragility and the frequency and severity of catastrophes. As a result, cities and territories must be equipped to cope with those multiscalar and multifaceted issues to reduce the vulnerability of people and land. Landscape architecture can help prevent hazards, exposure, and loss of life during the preparation/planning phase while promoting healthy ecosystems and motivating communities to adapt to a more dynamic environment. The landscape catastrophe response and recovery strategy is people-centred, socially just, and environmentally driven. During the disaster planning process, landscape architects can enhance long-term sustainability, safety, and quality of life through strategies that rebuild social and economic networks as well as shared memories and social values to reshape communities both physically and socio-culturally.

This paper identifies four essential factors for defining the role and responsibility of landscape architecture in a contested world. They are community participation and engagement, resilience and sustainable infrastructure, accessibility, and equity in recovery and reconstruction.

Community Participation and Engagement

In post-disaster recovery and reconstruction, experts concur that the participatory framework enables communities to become change agents and addresses the needs of households (Archer & Boonyabancha, 2011). Moreover, the participation of affected populations in the design and planning process is essential for ensuring the appropriateness and efficacy of interventions. However, we recognize that calls to "engage stakeholders" are often too broad and fail to acknowledge the webs of power, political-economic incentives, disparities, and conflicts that must be addressed to reconcile multiple interests, objectives, and worldviews via rehabilitation (Elias et al., 2021).

In landscape architecture, community involvement entails engaging community members in landscape projects' design, planning, and decision-making processes. This approach gives the community a sense of ownership since their input and feedback are considered during the design process. It fosters a sense of community pride and encourages stewardship, resulting in long-term landscape sustainability.

Besides, landscape architects can help communities prepare for disasters. They can hold workshops, training programs, and educational campaigns to raise disaster risk awareness and provide guidance on preparing for disasters. Landscape architects can also work with local governments, emergency management agencies, and community groups to create disaster response plans that include landscape-based strategies. Moreover, inviting the public into the landscape design process can have many positive outcomes. For starters, it encourages community members to take pride in their surroundings, which improves landscape maintenance and ensures its long-term viability. Second, when residents have a say in the landscape's development, it strengthens social bonds and promotes a sense of local pride. Finally, it fosters equality and diversity by ensuring all community member's needs are met by creating landscapes that reflect their unique perspectives and experiences. Ultimately, it increases community education and awareness as people learn more about the importance of landscapes in making communities more resilient to natural disasters.

Resilience and Sustainable Infrastructure

Efforts to recover and strengthen resilience significantly impact the landscapes of areas hit by emergencies and conflicts. Damaged social systems, natural resources, and infrastructure may all need to be repaired as part of the recovery effort. Resilience-building efforts may prioritize increasing capacity or decreasing vulnerability to future crises or conflicts.

Holling's (1973) ecological study is credited with coining the term resilience, which is now used in various fields, including urban design and landscape management. In ecology science, resilience is defined as a system's ability to absorb shocks, changes, and disruptions while maintaining system performance. Indeed, enhancing

a landscape's resilience can improve its ability to meet the needs of people, plants, animals, and microorganisms, among others (Dearing, 2008; Meerow & Newell, 2019). Scholars have challenged this prevalent interpretation of resilience by applying it to social-ecological systems (Folke, 2006), intended to evolve nonlinearly (Meerow, 2016) continuously. This has brought to another resilience's definition, evolutionary resilience, questioning the equilibrium paradigm and claiming that complex systems may change, adapt and transform in response to stresses and strains. This is the case of non-ecological systems, such as cities, where changes do not occur just when a specific threshold is achieved. In the context of disaster risk reduction, resilience to disaster refers to a system, community, or society's ability to adapt to hazards, resist their effects, and recover from them; this applies both before and after a disaster (UNISDR, 2009). Strong social networks and support systems are frequently the keys to making a place resilient, allowing its residents to cope and even thrive in adversity.

Landscape architecture has a well-demonstrated ability to develop and implement integrated spatial strategies to guide both disaster-risk reduction and long-term recovery and reconstruction after a disaster. Ecologists and planners are actively involved in talks on what societal resilience may entail if we want to move beyond just recovering from a disaster (such as by utilizing flood-resistant materials) or absorbing an ecological shock (e.g., barrier wetlands along a coastline). In the literature on urban resilience, social and ecological systems are seen as intricately intertwined, and inclusivity and adaptive capability are considered crucial components of resilience design (Masterson et al., 2014). A resilient city is a city with well-coordinated plans for disaster preparedness and response (Ahern, 2013; Aldrich, 2012; Godschalk et al., 1999; Goldstein, 2011; Masterson et al., 2014; Wilson, 2012) that also relies on renewable energy sources such as food production (Bradley & Herrera, 2016), the environment, and cooperative economies (McLaren & Agyeman, 2015).

Landscape architects oversee designing landscapes that are resilient to the effects of natural and human-induced disasters and can adapt to changing conditions over time. Furthermore, they are responsible for shaping landscapes that absorb, store, and filter water, providing green spaces that offer shade and lessen heat island effects in urban areas.

Safety and Accessibility

In their many phases, recovery and reconstruction provide opportunities to build safer, more sustainable, and more resilient communities than before the catastrophe. This is consistent with the approach of building back better (BBB), which attempts to reduce vulnerabilities to future disasters and improve community resilience to address physical, social, environmental, and economic vulnerabilities and shocks. In a crisis, safety and accessibility are among the first things to be addressed. In the phase of disaster preparedness, some factors are essential when designing a safe and accessible landscape. These include accessibility to everyone providing pathways and ramps accessible to wheelchairs, accessible routes wide enough to accommodate emergency vehicles, secure spaces that accommodate communities safely, spaces that consider gender differences, balance, and security, and spaces that accommodate different

cultural practices and traditions.

Landscape architects can design spaces that are both safe and easily accessible for disaster response and evacuation. They may develop strategies to assist in timely emergency response and evacuation, thus saving lives during crises. This involves the design and execution of evacuation infrastructure and emergency shelters that are readily accessible and inclusive of individuals with disabilities or other access requirements. Moreover, since disasters trigger displacement, the landscape profession can assist in developing strategic plans for temporary settlements and refugee camps equipped to accommodate communities escaping conflicts and catastrophes.

Equity in Recovery and Reconstruction

Several studies on recovery and reconstruction demonstrated how those programs and actions generate inequities and drive social vulnerability. Disasters and conflicts may affect communities differently, and disadvantaged people are often the most susceptible and least prepared to recover from catastrophic occurrences. Scholars agree that equity is a major goal of post-disaster recovery (Appler & Rumbach, 2016; Contreras, 2019; Kim & Olshansky, 2014; Olshansky & Johnson, 2014; Rumbach et al., 2016).

Landscape architects can ensure equitable recovery in post-conflict and disaster situations by engaging affected communities in the design and decision-making process and prioritizing the inclusion of frequently marginalized voices, such as those of low-income individuals, people of colour, and those with disabilities. By designing access to resources and services, transportation, and public spaces, the profession may contribute to social equity in recovery and rebuilding. On the other hand, landscape architects may influence policy development and implementation in land use planning, urban design, and environmental management, contributing to interventions that promote justice and democratic principles.

In post-disaster recovery efforts, environmental justice is an additional essential factor. In places where disadvantaged groups are most negatively affected by environmental deterioration, landscape architects emphasize sustainable designs that enhance environmental health. This may include the incorporation of green infrastructure, the promotion of renewable energy, or the creation of areas that minimize the effects of climate change.

Conclusion

In a contested world of multiple crises, landscape architects play a crucial role in designing resilient, sustainable, and equitable landscapes that can withstand and recover from environmental, social, and economic stresses. Their expertise in designing spaces that promote ecological stewardship, resilient design, climate change

adaptation, social equity, food security, education, and advocacy can contribute to constructing a better and more resilient future for our planet.

References

Ahern, J. (2013). Urban landscape sustainability and resilience: The promise and challenges of integrating ecology with urban planning and design. *Landscape Ecology, 28*(6), 1203-1212. https://doi.org/10.1007/s10980-013-9894-9

Appler, D., & Rumbach, A. (2016). Building community resilience through historic preservation. *Journal of the American Planning Association, 82*(2), 92–103. https://doi.org/10.1080/01944363.2015.1123640

Archer, D., & Boonyabancha, S. (2011). Seeing a disaster as an opportunity – harnessing the energy of disaster survivors for change. *Environment and Urbanization, 23*(1), 219-234. https://doi.org/10.1177/0956247811410011

Archer, D., & Dodman, D. (2015). Making capacity building critical: Power and justice in building urban climate resilience in Indonesia and Thailand. *Urban Climate, 14,* 68-78. doi: 10.1016/j.uclim.2015.07.001

Bradley, K., & Herrera, H. (2016). Decolonizing food justice: Naming, resisting, and researching colonizing forces in the movement. *Antipode, 48*(1), 97-114. https://doi.org/10.1111/anti.12168

Carter, J. G., Handmer, J., & Dovers, S. (2015). Climate change and the city: Building capacity for urban adaptation. *Progress in Planning, 95*, 1-66. https://doi.org/10.1016/j.progress.2013.08.001

Contreras, S. (2019). Using Arnstein's ladder as an evaluative framework for the assessment of participatory work in post-disaster Haiti. *Journal of the American Planning Association, 85*(3), 219–235. https://doi.org/10.1080/01944363.2019.1618728

Dearing, J. (2008). Landscape change and resilience theory: A palaeoenvironmental assessment from Yunnan, SW China. *Holocene, 18*(1), 117–127. https://doi.org/10.1177/0959683607085592

de Vries, Jeroen & Stauskis, Gintaras & Auweck, Fritz & Triboi, Roxana & Andreucci, Maria & Cervera Alonso de Medina, Marina & Medina, Alonso & Cipriani, Laura & Abreu, Margarida & Freire, Maria & Carapinha, Aurora & Da, Maria & Castro, Conceição & Del Pozo, Cristina & Deveikienė, Vaiva & Gunnlaugsson, Hermann Georg & Fekete, Albert & Fetzer, Ellen & Fabris, Luca & Dam, Torben. (2021). *An EU common training framework for Landscape Architecture addressing the current needs of society.*

Dodman, D., & Mitlin, D. (2013). Challenges for community-based adaptation: Discovering the potential for transformation. *Journal of International Development, 25*(5), 640-659. https://doi.org/10.1002/jid.2927

Elias, M., Kandel, M., Mansourian, S., Meinzen-Dick, R., Crossland, M., Joshi, D., Kariuki, J., Lee, L.C., McElwee, P., Sen, A., Sigman, E., Singh, R., Adamczyk, E.M., Addoah, T., Agaba, G., Alare, R.S., Anderson, W., Arulingam, I., Bellis, S.K.V., Birner, R., ... Young, L. (2018). Building resilience through participatory mapping: Community-based methodology for identifying environmental and social vulnerabilities in Cambodia. *Applied Geography, 92*, 199-208. https://doi.org/10.1016/j.apgeog.2017.12.019

Folke, C. (2006). Resilience: The emergence of a perspective for social–ecological systems analyses. *Global Environmental Change 16*(3), 253–67, https://doi.org/10.1016/j.gloenvcha.2006.04.002

Geoff Wilson, G. (2012). *Community resilience and environmental transitions.* Routledge.

Goldstein, B. E. (2011). *Collaborative resilience: Moving through crisis to opportunity.* MIT Press.

Godschalk, D., Beatley, T., Berke, P., Brower, D., & Kaiser, E. (1999). *Natural hazard mitigation: Recasting disaster policy and planning.* Island Press.

Hicks Masterson, J., Upton, D., & Advani, S. (2014). *Planning for community resilience: A handbook for reducing vulnerability to disasters.* Island Press. ISBN-10: 1610915852

Hill, K. (2020). Shifting sites: Everything is different now. In Kahn, A., & Burns, C.J. (Eds.), *Site matters: Strategies for uncertainty through planning and design* (2nd ed.). Routledge. https://doi.org/10.4324/9780429202384

Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics, 4,* 1-23. https://doi.org/10.1146/annurev.es.04.110173.000245

Keenan, J.M. (2018). Seeking an interoperability of disaster resilience and transformative adaptation in humanitarian design. *International Journal of Disaster Resilience in the Built Environment, 9*(2), 145-152. https://doi.org/10.1108/IJDRBE-04-2017-0034

Kim, K., & Olshansky, R. B. (2014). The theory and practice of building back better. *Journal of the American Planning Association, 80*(4), 289-292. https://doi.org/10.1080/01944363.2014.988597

McLaren, D., & Agyeman, J. (2015). *Sharing cities: A case for truly smart and sustainable cities.* MIT Press.

Meerow, S., Newell, J.P., Stults, M. (2016). Defining urban resilience: A review. *Landscape and Urban Planning, 147,* 38–49. https://doi.org/10.1016/j.landurbplan.2015.11.011.

Meerow, S., & Newell, J. P. (2019). Urban resilience for whom, what, when, where, and why? *Urban Geography, 40*(3), 309-329. doi: 10.1080/02723638.2018.1528828

Newman, P., Beatley, T., and Boyer, H. (2017). *Resilient cities, second edition: Overcoming fossil fuel dependence.* Island Press.

Olshansky, R. B., & Johnson, L. A. (2014). The evolution of the federal role in supporting community recovery after U.S. disasters. *Journal of the American Planning Association, 80*(4), 293–304. https://doi.org/10.1080/01944363.2014.967710

Rumbach, A., Makarewicz, C., & Németh, J. (2016). The importance of place in early disaster recovery: A case study of the 2013 Colorado floods. *Journal of Environmental Planning and Management, 59*(11), 2045–2063. https://doi.org/10.1080/09640568.2015.1116981

Food Security, Agriculture and Landscape

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This work incorporates definitions, concepts and criteria adopted as a result of debates, agreements and webinar outcomes, as developed by the members of our Working Group, together with the contribution of the public and those experts who joined us.

Demands arising from the global political agenda, in the face of the effects of urban growth, climate change, food insecurity, loss of biodiversity, migration and war, underline the relevance of the bond between Agriculture, and Landscape Architecture, not only because of the shared concern with food production but also because of its impact on human activity as well as the environment and civil society. In preparation for the next IFLA 2023 World Council in Nairobi, this paper focuses on the importance of such a bond as a way to allow a discussion imperative to the future of our profession in this regard.

1. On Agriculture

Agriculture, an activity on which about 50% of the world's population depends for its livelihood, is an important economic force. It is also a way of life, a factor of cultural identity and an ancestral pact with nature. Within the non-monetary values of agriculture are: the landscape, the habitat, and its liaison with territorial planning, as well as its capacity to raise awareness of original communities and our idiosyncrasy. But without a doubt, the most significant contribution of agriculture is that, for more than 811 million undernourished people in the world, most of them in rural areas, it is a means to face hunger. About 10% of the world's population regularly go to bed facing hunger.

1.1 Food Security

The prevalence of undernourishment, as a share of the population, is the main hunger indicator used by the UN's Food and Agriculture Organization (FAO). It measures the

share of the population which has a caloric (dietary energy) intake which is insufficient to meet the minimum energy requirements defined as necessary for a given population (food insecurity).

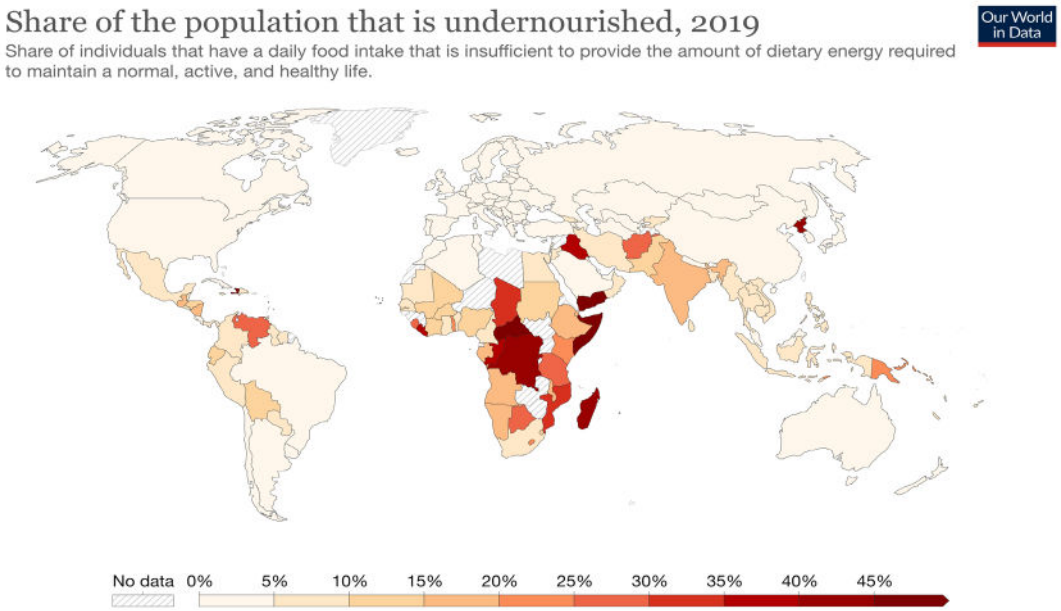

Figure 1.1.1

Share of the population that is under-nourished.

Source: Food and Agriculture Organization of the United Nations (FAO) via World Bank (2019)

The global map of the prevalence of undernourishment above shows the share of the undernourished population (countries with a prevalence below 2.5% are not shown). The war in Ukraine has made conditions worse since 2022, as conflict restricts global food supplies, drives up prices, and threatens the world's most vulnerable people and countries.

Poverty operates as a mechanism of reproduction of gaps between urban and rural that affects access to food and basic services, such as health, education and infrastructure. The global trend shows that the disparity between the supply of services and employment opportunities at the rural level is practically half that at the urban level. These inequalities are also evident regarding wages and prices.

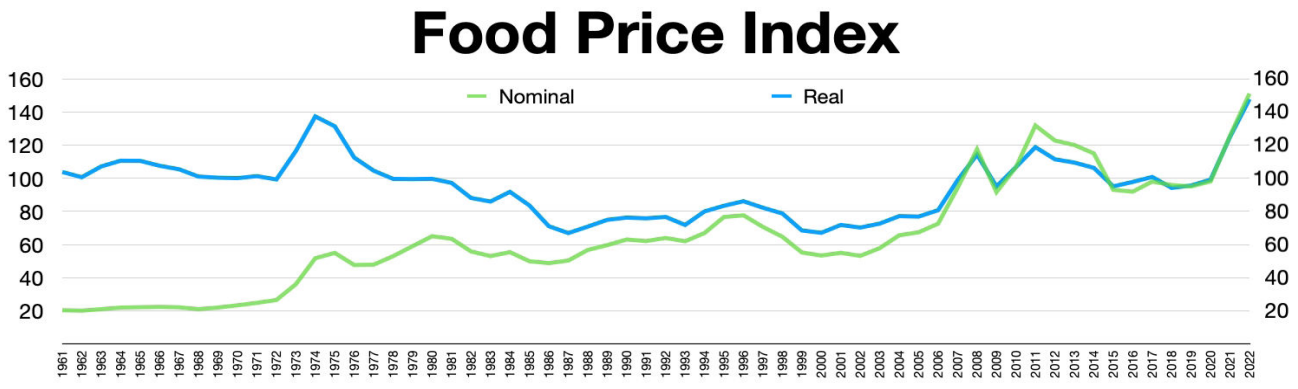

Figure 1.1.2
Access to food, Nominal and Real Terms.
Source: Food and Agriculture Organization of the United Nations (FAO) (2021)

Figure 1.1.2 on the previous page presents the difference in nominal and real terms of access to food based on wages. The gap between the two is an indicator of the increase in hunger. The United Nations' "zero hunger" Sustainable Development Goal calls for ending global hunger by 2030. To reach this goal globally, USD $ 265 billion per year were estimated to be needed between 2016 and 2030, broken down into USD $ 67,000 million for social protection and USD 198 billion for pro-poor investments. COVID-19 pandemic, extreme weather, and the war have intensified underlying inequalities around the world, making this goal even more difficult to achieve.

Other variable that affects the percentage of the undernourished population is its own growth, which tends to be concentrated in urban areas. According to the World Bank, whereas 56% of the planet's population lives in cities today, this figure is expected to increase to 60% by 2030. United Nations projections estimate that the world's urban population will experience a growth of 75% in the next four decades (a rise of 6.3 billion by 2050), mainly due to the "unprecedented" push that cities in Africa and Asia will experience.

Figure 1.1.3 presented below allows us to observe the behaviour of the population increase by decade and by region worldwide.

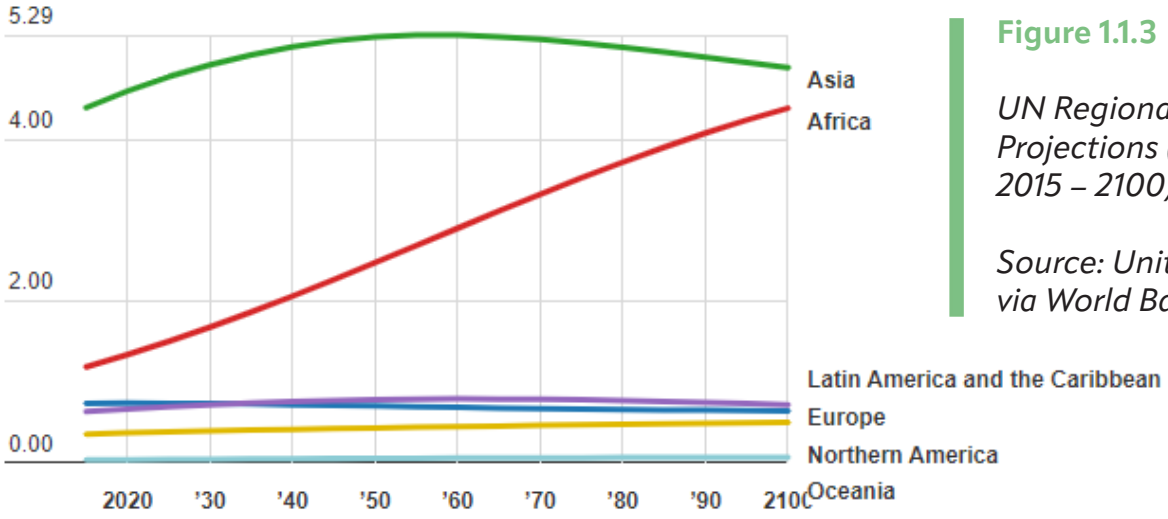

Figure 1.1.3

UN Regional Population Projections (Billions, 2015 – 2100).

Source: United Nations via World Bank (2015)

Nearly two-thirds of the world's population lives in Asia, mostly in India and China. A review of forecasts broken down by region reveals that by 2100, Africa and Asia will be home to 4.4 and 4.9 billion people, respectively and together, will account for 83% of the world's population. In other words, the share of the non-African or non-Asian world population appears small and relatively constant.

At the World Food Summit in Rome in 1996, Food Security was defined as "the situation in which all people, at all times, have physical and economic access to get enough nutritious safe food to meet their nutritional needs and develop a healthy life" (FAO, 2011).

According to the facts stated above, under the present circumstances, food security appears like a major global concern and a rather difficult target to achieve.

1.2 Climate Change

Currently, and foreseeable at least during the next two decades, our nation's territory, landscape and population are exposed to the threat of great oceanic masses as well as the constant increase of temperature. The rise in the quantity of water, extreme events and droughts and their effects on production point to climate change as a global reality as well as the fact that weather patterns are becoming progressively more erratic and severe.

Figure 1.2.1

Natural disaster and climate change.

Source: Sustainability for all (2019)

The incidence of human society in global warming causes atmospheric phenomena to be increasingly violent. The increase becomes apparent through the number of natural disasters and their distribution. Climate change affects infrastructure, public health, agriculture, and the loss of lives and productive activities, further threatening human society's fragile food security.

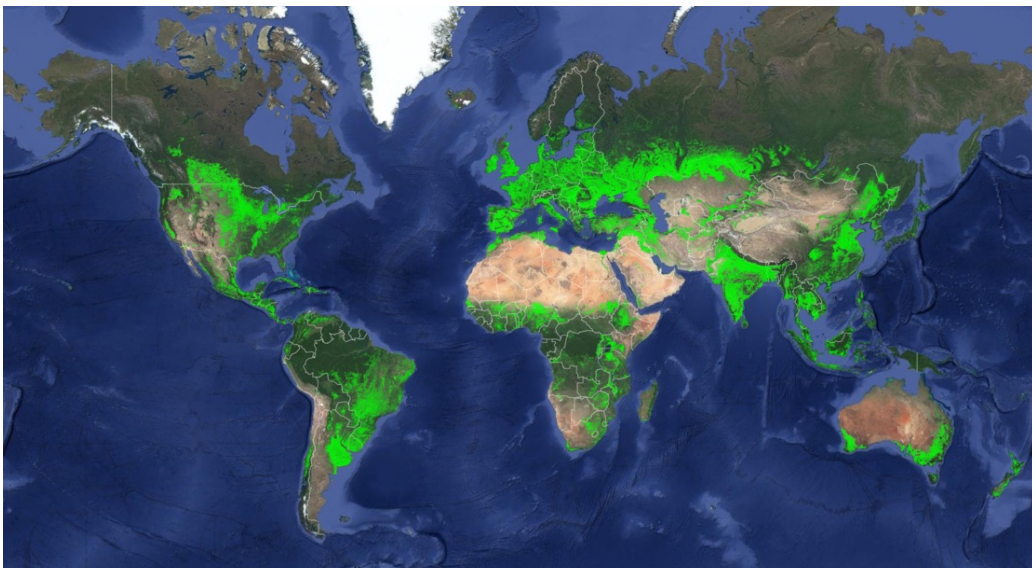

Figure 1.2.2

Worldwide croplands extent, food support and water security map.

Source: Global Croplands via USGS (2017)

The map on the previous page shows cropland distribution across the world. India has the highest net cropland area, while South Asia and Europe are considered agricultural capitals of the world. The present global distribution of crops and agricultural activity is undergoing dramatic changes related to the climate, but also with the extension of land consumed by the current production and distribution systems.

The conditions indicated up to this point result in critical thinking regarding the commercial and industrial agricultural trend, focused on the product and not on food. The academy and international organisations such as FAO propose a paradigm shift with production modes closer to nature, aware of the contribution of ancestral communities and the advantages to the direct consumer, trying to reduce intermediation to zero. This vision allows us to focus on agroecology and the concept of good agricultural practices.

The effects of climate change also underline the importance of Water Security. Nearly 80 percent of all human water used worldwide goes towards producing food. The world can expect more rainfall as the climate changes, but it can also expect more water to evaporate, complicating efforts to manage reservoirs and irrigate crops in a growing world.

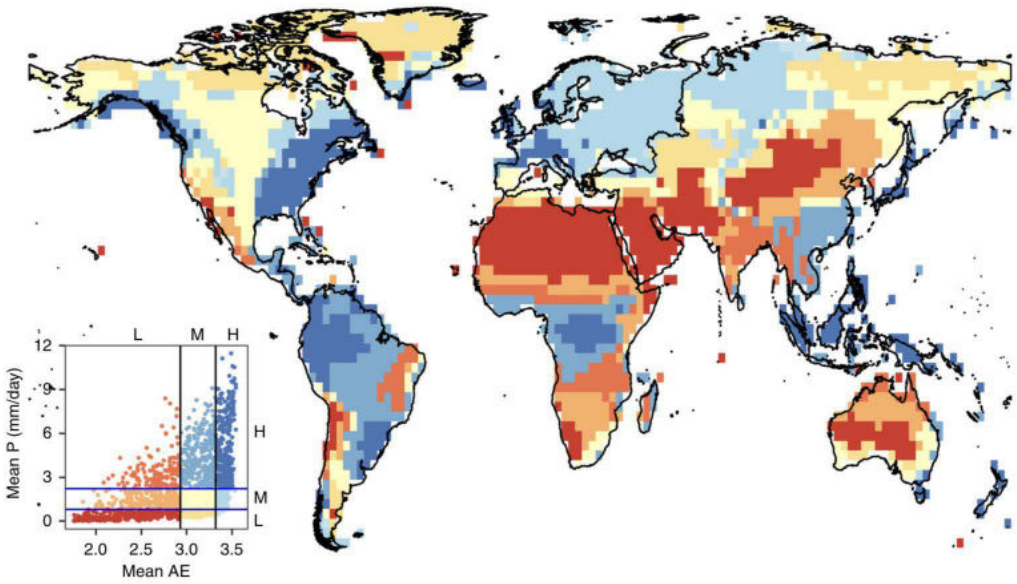

Figure 1.2.3

Extreme world regions from drought areas to flooding map.

Source: Clemson News (2021)

This map shows how the various precipitation regions are distributed throughout the world. According to new research involving Clemson University's Ashok Mishra, areas in dark orange are most vulnerable to extremes in wet and dry seasons, a trend expected to become more intense as the climate changes.

The regions that will be hardest hit by climate change are the ones that already get slammed with rain during wet seasons and struggle with drought during dry ones. Such regions include much of India and its neighbours to the east, including Bangladesh and Myanmar, along with an inland swath of Brazil, two east-west sections across Africa, and northern Australia.

The extreme effects of climate change affect the productive capacity and alter the

daily life of communities and their landscape. Both excess and non-availability of water damage put food security at risk. Thus, adaptation and mitigation to the effects of climate change have become a high priority.

2. Agriculture and Landscape

Agricultural Landscape is an expression of the bond between human society and the environment, linked to a wider concept of biodiversity. It is also the result of a coevolution process between man and nature. A tighter link between landscape and agriculture could be a great opportunity for sustainability both for landscape quality as well as for people's life quality, allowing access to a healthier environment and food.

2.1 A Conceptual Update

To apprehend the concept of landscape, we must understand it from multiple perspectives. Likewise, we have to look through different readings to unravel the relationship between agriculture and landscape. While agricultural heritage systems are our common roots, agriculture is also the face of rural territory and an important economic resource. For local communities, rural landscapes enhance a sense of belonging and identity and have proven to be the most effective way of giving human scale to natural places.

Throughout history, people devoted to agriculture contributed to the creation of what was then called Rural landscapes and presently are regarded as examples of resilient landscapes towards climate change and a valuable resource not to be ignored or misused. But also, over time, and above all, due to the forms of industrial and commercial production at a global level, as part of the phenomenon of urbanisation, rural areas and rurality have somehow become synonymous with a process of exclusion.

2.2 Regarding Rurality

After the pandemic, "the rural" is no longer considered a space of deficiencies and poverty, and it begins to be understood as a space of opportunities to transform food and energy systems and promote ecosystem services, the conservation of biodiversity, the fight against climate change and sustainable management of natural resources like land and water.

Food security is understood as a way of life and in relation to nature and the environment; close to these new concepts of rurality and urbanity opens up many options for improving ecosystem services, environmental health, quality of life, identity and communication. Also, it calls for a new relationship between consumer distribution and community production associated with greater and better public space for the enjoyment of cultural activities and the public.

2.3 Biodiversity, Agriculture and Landscape

Ecological landscapes are based on the environmental features of a site for the benefit of all forms of life within an ecosystem, including human society. High biological diversity goes hand in hand with a great diversity of landscapes. The landscape comprises all forms of biodiversity and integrates them transversally.

The effect of climate change places the affected regions in serious exposure to multiple risks that will affect the health of the population, the economic situation, the environment and the availability of natural resources.

A key response of landscape to this situation is resilience.

In order to face the current challenges, we need to expand the availability of technical resources, as well as promote and support community participation and thus achieve our key objective, which is to integrate ecological and social resilience. The resilience of food production systems is strongly related to the ecosystem they support.

Landscape is the articulator par excellence since it incorporates the visions from the natural to the social and allows the defence, recovery and improvement of the conditions of life, which contemplate from the habitat to the identity.

At this stage, we must ask ourselves: What kind of agriculture and where? What kind of agriculture and for whom? What kind of agriculture and which landscape?

To answer these questions, we aim to spread the concept of ***Productive Landscapes*** as the current social construction of landscape. A landscape whose management, far from exhausting resources, contributes to its production.

3. The Role of Landscape Architects

Due to our holistic interdisciplinary vision, we Landscape Architects are uniquely qualified to contribute to large-scale landscape planning and multifunctional landscape design, food production, food security and sovereignty, and the pursuit of territorial justice.

3.1 Our Call

Traditionally, Landscape Architecture was associated with designing parks, gardens and green areas for public and private use, which framed emblematic buildings and sites. Currently, the specialist in Landscape Architecture is a professional who covers the entire environment, the treatment of urban, interurban and regional areas,

green spaces associated with tourism, works of art and sites of great significance, maintenance and protection of national parks, preservation and recovery of various forms of heritage, considering historical, forest and water heritage, lines coastlines and border fringes.

There is a high expectation towards our profession regarding our involvement in large areas and scales, along with; the construction of new rurality and urbanity associated with efforts to halt the loss of biodiversity and enhance adaptation to the effects of climate change. In this regard, we Landscape Architects are specially trained and must contribute to strengthening ecological and social resilience. At the present time, the response of the landscape is resilience.

3.2 IFLA World Working Group on Agriculture and Landscape

Presently IFLA encompasses five regions worldwide, hosting seventy-eight national and two multinational associations. Aware of the serious events that affect agriculture and the landscape in relation to food security and sensitive to the demands and challenges of the global search for a new paradigm, during the International World Conference and Council held in Oslo in September 2019, the IFLA World Working Group on Agriculture and Landscape (WG A&L) was appointed.

3.2.1 Targets and Key Actions

IFLA WG A&L was set up in order to create a globally organized team of specialists capable of fulfilling the following targets:

i. Co-ordinate, develop and oversee IFLA's overall framework in all matters dealing with Agriculture and Landscape to ensure high standards of professional practice by its members;
ii. Design and implement Strategic Action Plans by region for the promotion of transformative actions, innovative proposals as well as to prevent and mitigate current threats to urban and rural agriculture and the landscape that identifies them. Also, to develop new forms of management for Territorial and Food Justice as a contribution to the end of world hunger;
iii. Awake awareness and understanding, and stimulate commitment as pertains to the relationship between Agriculture and Productive Landscapes in order to address managing solutions to conflicts and demands identified as priorities.

The above-mentioned targets to be attained by implementing key actions such as:

i. Make an inventory of agricultural heritage systems in each region and nation in response to the safeguard of agricultural biodiversity and wildlife and the dissemination of indigenous knowledge sources and ancestral cultures;
ii. Explore and deepen mutual collaboration opportunities between Agriculture, Urban Agriculture, Productive Landscapes, Public Space and Cultural-natural Heritage;

iii. Promote actions based on transformation, innovation and resilience, according to the communities and their environment;
iv. Establishing a core of thematic axes on emergencies and priority issues as to generate action lines and hands-on-projects by local teams implementing participatory ventures;
v. Identifying and promoting efficient levels of production and consumption according with the living conditions, needs and idiosyncrasy of the communities involved.

The IFLA World Working Group on Agriculture and Landscape, as part of the IFLA Standing Committee on Professional Practice and Policy (PPP), contributes to varying degrees to each and all seventeen Sustainable Development Goals (SDGs) of the United Nations 20-30 Agenda, particularly the Second of said objectives "Zero Hunger", which poses to reduce the World Hunger that affects more than eight hundred million people globally, by the year 2030. Even so, as explained in section 1.1, under the present circumstances, food security appears like a major global concern and a rather difficult target to achieve.

3.2.2 Structure

Our IFLA WG A&L aims to reach responsible responses regarding the bond between Agriculture and Landscape Architecture, favouring binding actions to support Territorial Justice and Food Security. The latter, through innovative conceptual frameworks, community involvement and landscape management.

Our working group is made up of a representative from each of the IFLA regions and a Chair Person.

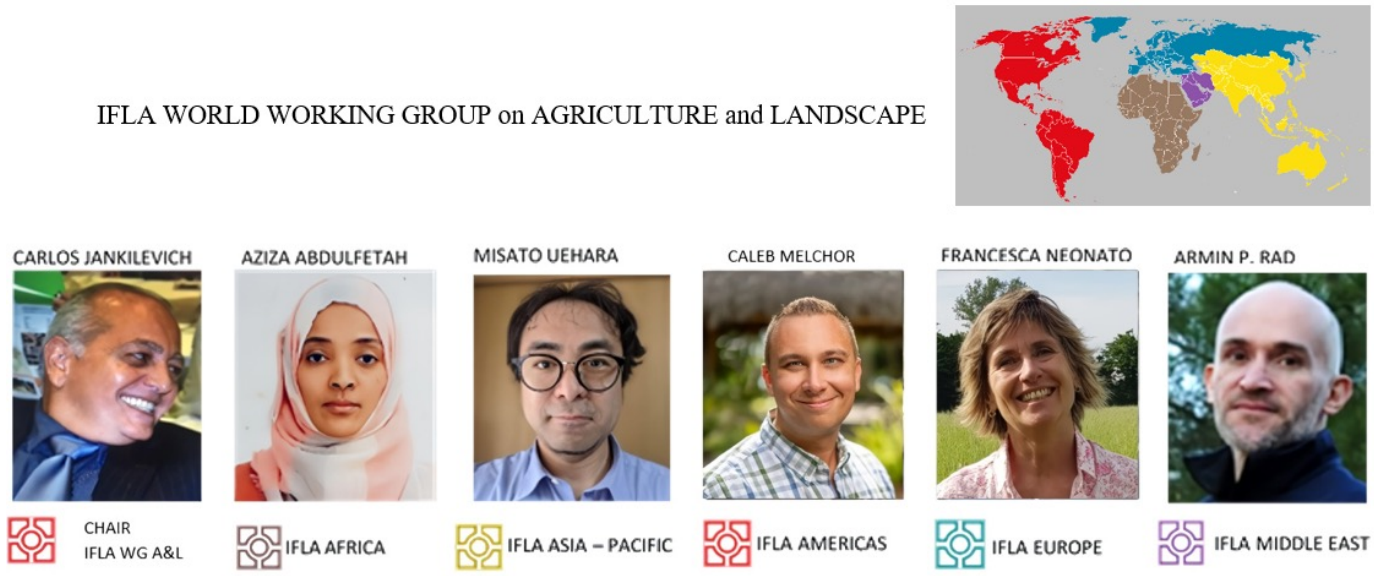

Figure 3.2.2
Members of the IFLA Working Group on Agriculture and Landscape.
Source: Prepared by the author (2023)

3.2.3 Achievements and Main Action Axes

IFLA WG A&L seeks to achieve its goals through Regional Strategic Plans, local hands-on projects, and global debate-feedback seminars. Also supporting the development of communication networks and platforms, among which a remarkable case in point is "Living with Disaster", a platform hosted by teachable.com developed by Misato Uehara and his Shinshu University team within the Asia Pacific Region. Followed by the recent set-up in America's region of the "Landscape Platform" led by Pedro Camarena and his colleagues from UNAM (University of Mexico).

From its creation to the present, at least three webinars have been held yearly with wide participation and great dissemination of their results. Also, in 2023 the broadcasting of short interviews on key topics was launched. These activities are framed within the group's four main Action Axes, each of them referring to a key issue on the global agenda.

RAIL	**IFLA STRATEGY FOR RURAL ANCESTRAL AND INNOVATIVE LANDSCAPES** Focused on rural landscape as a heritage to be preserved and learned from. Also, as a source for innovation based on ancestral knowledge and the creation of alternative systems (led by IFLA Europe)
OLA	**IFLA INITIATIVE ON OASIS, LANDSCAPES & AGRICULTURE** Devoted to agriculture solutions through productive landscapes in oases and drought areas (led by IFLA Africa and the Middle East)
FLAG	**IFLA PROJECT ON EXTREME WATER-RELATED EVENTS AND AGRICULTURE** Attentive to the prevention and solution to disasters emerging from flooding, tsunamis, sea level rising and other forms of water-related extreme events (led by IFLA Asia Pacific)
LAM	**IFLA PROPOSAL FOR LANDSCAPE, AGRICULTURE AND MIGRATION REFUGEE CAMPS *versus* REFUGEE FARMS** Dedicated to the pursuit of landscape – agriculture-related solution populations in their new temporary permanent settlements (led by IFLA Americas)

Figure 3.2.3
IFLA WG A&L Main Action Axes.
Source: Prepared by the author (2023)

Within this wide spectrum of challenges and opportunities, a crucial tool is the development of liaisons and establishing stable relationships with national and local governments, professional boards and community associations. Also, building up agreements and joint actions with international allies, such as United Nations agencies, like Habitat and FAO and the International Union for Conservation of Nature (IUCN). In this regard, we have been implementing hands-on projects along America's region for the last three years within the framework of the IICA-IFLA agreement, which has recently been extended until 2025.

IICA is the Inter-American Institute for Agricultural Cooperation, the largest agency of the Organization of American States, encompassing thirty-four nations. Please see examples of these projects through the following link: *https://drive.google.com/file/d/1YNlUlm_NmZ6DCU7iazeliEYKHN7Tmai/view?usp=sharing*

References

Food and Agriculture Organization of the United Nations. (2011). *Food nutrition security: Basic concepts* (3rd ed.). https://www.fao.org/3/at772s/at772s.pdf

United Nations Department of Economic and Social Affairs, Population Division. (2022). World Population Prospects: Summary of Results. UN DESA/POP/2022/TR/NO. 3. https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf

Fig 1.1.1 Food and Agriculture Organization of the United Nations (via World Bank). (2019). Share of the population that is undernourished, 2019 [Graph]. https://ourworldindata.org/hunger-and-undernourishment

Fig 1.1.2 Food and Agriculture Organization of the United Nations.(2021). Food Price Index 1961–2021 [Image]. Wikimedia Commons. https://commons.wikimedia.org/wiki/File:FAO_Food_Price_Index_1961%E2%80%932021.jpg

Fig 1.1.3 Khokhar, T. & Kashiwase, H. (2015). UN Regional Population Projections (Billions, 2015 - 2100) [Graph]. World Bank. https://blogs.worldbank.org/opendata/future-world-s-population-4-charts

Fig 1.2.1 Sustainability for all. (2019). Natural disaster and climate change [Image]. https://www.sostenibilidad.com/cambio-climatico/desastres-naturales-y-cambio-climatico/?_adin=1174174195

Fig 1.2.2 USGS. (2017). New Map of Worldwide Croplands Supports Food and Water Security [Image]. https://www.usgs.gov/news/featured-story/new-map-worldwide-croplands-supports-food-and-water-security

Fig 1.2.3 Clemson News. (2021). [Image of precipitation regions]. Clemson.edu. https://news.clemson.edu/can-south-carolina-beat-the-heat/

Indigenous Knowledge, Indigenous Practice and their Importance for Landscape Architecture

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Landscape Architectural Practice

Landscape Architects provide their skills and services through research, training and knowledge of people, place and environment, and Landscape architecture education has yet to include reference to Indigenous knowledge and traditions. While most Landscape Architects are not members of an Indigenous community, using all available knowledge can enable Landscape Architects to better respond to the range of complex issues addressing landscape continuity and change. These forces and pressures derive predominantly from human sources, including biodiversity loss and extinctions, water quality deterioration, and the increasing manifestation of climate change, such as flooding, droughts, violent storms, sea level rise and more. In the spirit and implementation of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), and to respond to planetary crises, governments such as the USA, and management agencies, are recognising that Indigenous peoples' knowledge could assist with addressing such environmental emergencies. With this policy, the inclusion of Indigenous knowledge is advanced in the Landscape Architecture profession worldwide.

Indigenous communities in many areas of the planet have effectively sustained their places through developed knowledge and practices over millennia. While holding important parallels worldwide, with an understanding of place foremost, the knowledge has been passed down through generations, often in deep time, and constantly studied and updated in response to change.

This policy document encourages all Landscape Architects to seek out, understand and integrate Indigenous knowledge and practices in their works through engagement with Indigenous communities. This process of learning about and incorporating Indigenous knowledge and practices offers a means to understand place, change and impacts better. Indigenous knowledge and practices sharing must be carried out with the consent of the appropriate Indigenous communities.

Landscape Architects have an ethical responsibility to ensure that Indigenous communities willingly approve sharing their knowledge and practices. Their knowledge is their intellectual property (IP) and must be respected and honoured.

Indigenous Knowledge and Practice

Indigenous communities maintain sovereign rights to their knowledge (IP). That knowledge is not to be appropriated without the direct consent of the particular owners in specific circumstances. UNDRIP, the United Nations Declaration on the Rights of Indigenous Peoples, 2007, signed by 144 countries, is an international framework and a comprehensive agreement on the rights of Indigenous people. The text notes: "Recognizing that the respect of Indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment," (UNDRIP, 2007, p. 4). Article 11 (2) of UNDRIP affirms rights to intellectual property which should not be taken without free, prior and informed consent or in violation of [Indigenous] laws, traditions and customs (UNDRIP, 2007, p. 12).

Article 31 (1) states:

> *Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestation of their sciences, technologies and cultures, including human and genetic sources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge and traditional cultural expressions*
>
> (UNDRIP, 2007, pp. 22-23)

Trade-Related Aspects of Intellectual Property Rights (TRIPS) is an international trade agreement that also affirms intellectual property rights. Countries' obligations under the minimum-standards-setting TRIPS agreement support the protection of Indigenous Intellectual Property; however, it is a minimum standard and national laws would reinforce protection (Waitangi Tribunal Report, 2011, p. 702).

> *The WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) 1995, amended 2017, is the most comprehensive multilateral agreement on intellectual property (IP). It plays a central role in facilitating trade in knowledge and creativity, in resolving trade disputes over IP, and in assuring WTO members the latitude to achieve their domestic policy objectives. It frames the IP system in terms of innovation, technology transfer and public welfare. The Agreement is a legal recognition of the significance of links between IP and trade and the need for a balanced IP system*
>
> (WTO)

In addition, the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore are also developing legal instruments through WIPO, the World Intellectual Property Organisation. This indicates the interest and increasing recognition and protection of Indigenous knowledge.

A definition of Indigenous knowledge is:

> *Indigenous Knowledge – also referred to as Traditional Knowledge or Traditional Ecological Knowledge – is a body of observations, oral and written knowledge, innovations, practices, and beliefs that promote sustainability and the responsible stewardship of cultural and natural resources through relationships between humans and their landscapes. Indigenous Knowledge cannot be separated from the people inextricably connected to that knowledge. It applies to phenomena across biological, physical, social, cultural, and spiritual systems. Indigenous Peoples have developed their knowledge systems over millennia, and continue to do so based on evidence acquired through direct contact with the environment, long-term experiences, extensive observations, lessons, and skills*
>
> (Daniel et al., 2022)

Indigenous knowledge is developed as holistic frameworks (Apgar et al., 2009, p. 2) and as the basis of survival is handed down over hundreds or thousands of years. The knowledge has been maintained as stewardship within the framework of supporting both place and their peoples. This knowledge is assessed, affirmed and rechecked as environments modify. It is transmitted through proverbs, stories, art forms, ceremonies and performances, practices, and in many other ways. The knowledge is diverse, as the Indigenous communities live in different latitudes and locations, and their living patterns include seasonal migration. There are as many knowledge systems as Indigenous communities. The knowledge may consist of the interconnectedness of places and environments, relationships of people, ecologies, animals, plants, geology and soils, celestial identification and navigation, and their interrelationships. Their knowledge and belief systems may be based on the genealogical connections of all things living and non-living (Yates, 2022). The first step in working with Indigenous communities is to build a generous and respectful relationship with them (Castleden et al., 2012). Indigenous communities, however, may oppose knowledge sharing: 'Increasing global interest in commercialisation of Indigenous knowledge has resulted in misuse, misrepresentation, and misunderstanding of this Indigenous knowledge,' (Mark e al., 2019). Fostering trust, generosity and reciprocity from professionals seeking a relationship is a first step. Landscape Architects could also advocate for the roles, rights and self-determination of Indigenous, without taking away from Indigenous leadership, in order to address past cultural injustices. This may be a fitting focus of partnership for national associations with Indigenous communities.

Indigenous practice is based on culture, beliefs, and Indigenous knowledge, and is learned through stories, art, environmental management and ritual practice (Apgar et al., 2015). Stories are used in teaching by Indigenous communities to create a particular type of society (Linaker, pers comm, 2023). These practices contribute to Indigenous identity, belonging and relationship to place (Boulton et al., 2021) often through customs and the rituals of introduction and relationships, or seasonal

practices of resource gathering and environmental monitoring. Such practices are part of Indigenous responsibilities to the sustainability of the environment, including sea, waterways (Joseph et al., 2020), species and people (Apgar et al., 2009). Indigenous practices often include the intangible aspects of spiritual values and language (Smith & Huffer, 2021, 2023). Indigenous laws and traditions guide resource protection, such as prohibiting resource use at certain times or places (Maxwell & Penetito, 2007). Indigenous practices such as plant management (such as by burning) and use in medicines, as well as Indigenous knowledge are part of Indigenous people's cultural IP.

Examples of Indigenous Practice

Indigenous communities live by an environmental calendar (Elder, 2022; Warbrick et al., 2023). While many Indigenous communities undertake practices according to environmental rhythms and changes, a useful example of a holistic and comprehensive practice is the maramataka, the Māori calendar, which in a simplistic description, bases resource use and social interactions to align with the moon phases. This calendar is a complex and detailed system for planning life interactions, wellness and management, which is precise according to location and context. For instance, a tribal maramataka calendar is based on moon phases and, therefore, tidal rhythms of that tribal location (Tāwhai, 2014).

Knowledge and use of plants for health and well-being is another vector of Indigenous practices. (Mark et al., 2019). Plant flowering and productivity may be linked to environmental changes as well as resource or food production for people and stock. Ecosystems knowledge, such as the location of wetland formations, even those since drained, are examples of knowledge that can assist Landscape Architects. Indigenous place names can provide a richness of detail and form a basis for conservation directives or past events. Indigenous understandings of past/present/future time as perhaps cyclic thinking enables a different perspective from linear thinking.

A broad understanding of Indigenous communities' values and perspectives on environmental management may be gained first through research without initially taking time of Indigenous communities (who have their own aspirations and commitments and may expect initial fact-finding to be undertaken by those seeking the benefits). Aotearoa New Zealand Indigenous Māori communities (as do others) produce and publish their environmental management plans which contain their values and references to practices such as guardianship and conservation.

Water protection and enhancement, including spiritual qualities of water, are vital to Indigenous communities, and the spiritual health and life-giving qualities of fresh and marine waters are generally widely understood. Such Indigenous knowledge is being applied, as an example, through the assessment of environmental health (Yates et al., 2020) and by Indigenous practitioners working in conjunction with other professions such as Ngā Aho, the Māori designers' network which has joined with Indigenous communities in Turtle Island, (First Nation and Native Americans) and others. Further sources of information include publications such as Our Voices the de-colonial project (Kiddle, Stewart & O'Brien) covering trans-disciplinary writing, practice, projects and case studies.

Why is this Important for Landscape Architects?

Landscape Architects are interested in planning, designing and managing places at different scales as well as social relations, their interrelationships, sustainability and resilience. Indigenous place-based knowledge can be integrated into Landscape Architecture practice, from research to environmental policies and decision-making, management of place/home/country, and through co-design with Indigenous communities (Parsons & Taylor, 2022; Daniel et al., 2022). Such knowledge can assist with understanding place within larger and more complex contexts, especially when much has been modified and when changes are occurring (Cruikshank, 2012) and explain why particular systems must remain intact. It may also provide an alternative perspective to other types of knowledge held by non-Indigenous communities and can be woven with various knowledge systems where appropriate (Wilkinson & Macfarlane, 2021, pp. 245-257). Indigenous knowledge and practice should also be included in Tertiary education so that Indigenous students understand their knowledge is respected, is an integral part of the Landscape Architecture profession, and so that engagement practice in conjunction with Indigenous communities is an integrated aspect of professional training. This should be included in IFLA's education documents.

Landscape Architects who gain an understanding of Indigenous knowledge benefit from good relationships with Indigenous communities and Indigenous clients. In addition, design ideas developed by Indigenous may assist with building professional knowledge in diverse ways, such as the de-constructability of housing to help with the retreat from sea level rise or specific land uses. Many Landscape Architects globally are already working with Indigenous clients and incorporating customs of engagement and understanding of Indigenous beliefs into their research and practice. Examples of professions taking an inclusive approach to knowledge are Te Tangi a Te Manu, a landscape assessment methodology developed by Tuia Pito Ora New Zealand Institute of Landscape Architects, which pays attention to engagement and co-design (Lister et al., 2021), and the best practice guide for heritage practitioners Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia (Heritage Chairs of Australia and New Zealand, 2022). The Australian Institute of Landscape Architects (with IFLA), ICOMOS ISC Cultural Landscape Committee, and universities have held webinars on Indigenous knowledge and practice in the last few years. Still, many further opportunities exist for enriching Landscape Architecture knowledge and practice. Respecting and honouring Indigenous knowledge is a fitting and needed response to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP, 2007).

Summary

Landscape Architects benefit as a profession through innovative and open thinking. Including Indigenous knowledge and practice in education, research, planning, design, monitoring and management enables practitioners to change perspectives. This is also an opportunity to build relationships with Indigenous communities.

Such relationships are an ongoing process requiring respect and generosity, a time commitment from all parties assuming the Indigenous community has the capacity for a relationship, and should be intended to endure. This policy document provides a basis for effectively recognising Indigenous knowledge and practices. Actions that national associations, educators and practices might adopt include:

- Recognition of the territories of Indigenous communities within their area;
- Building and establishing ongoing reciprocal relationships with Indigenous communities, including learning their languages;
- Supporting Indigenous initiatives such as research, and adoption of appropriate Indigenous place names and local stories;
- Seeking out, understanding and integrating Indigenous knowledge and practices in education, policy and practice, including through co-design;
- Acknowledging Indigenous communities in any work connected to land, including where cities now stand, but which was previously held in trust for future generations by Indigenous communities;
- Supporting Indigenous communities' goal of self-determination, where it is not yet in place.

Resolutions for IFLA

- **Delegates agree** to promote dialogue on Indigenous knowledge and practice through their professional associations, to work alongside Indigenous communities (in countries where they are present), and respect Indigenous knowledge as it is shared.
- **Resolve** to adopt inclusive decision-making and governance policies at all levels in line with those of ICOMOS to contribute to IFLA governance and practice.
- **Resolve** to reflect Indigenous knowledge as education requirements in relevant documentation.

Appendix A: Draft resolutions for ICOMOS General Assembly, September 2023

Indigenous Inclusion throughout ICOMOS

Preamble

- **Recognising** the inherent authority of Indigenous Peoples over their culture and heritage, that existed before and outside of any legal instrument, and continues to be exercised regardless of constructs external to them.
- **Recognising** that there is an intrinsic responsibility for Indigenous Peoples to speak and act for their own custodial responsibilities.
- **Recalling** that the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) was adopted by the United Nations in the spirit of partnership and mutual respect in 2007 by 144 countries (termed states), and later endorsed by Australia (2009), Canada (2021), New Zealand (2010) and the USA (2010).
- **Recognising** in particular that Indigenous Peoples have "the right to self-determination" (Article 3) as well as "the right to maintain, protect and develop the past, present, and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature" (Article 11 of UNDRIP), and the related right to identify and acknowledge the characteristics and elements that make heritage sites of Indigenous value.
- **Acknowledging** that ICOMOS, as the culture advisor to World Heritage, can be aided in its work by the inclusion of Indigenous representation to identify Indigenous values, and should enlarge the scope of non-Indigenous values and criteria to add Indigenous.
- **Affirming**, in the spirit of UNDRIP, that ICOMOS should also give effect to the principle enshrined in Article 41 that "Ways and means of ensuring participation of Indigenous peoples on issues affecting them shall be established".
- **Asserting** that Indigenous communities have the rights to Indigenous knowledge and practices as expressions of their intellectual property. "Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions." (Article 31 of UNDRIP).
- **Recalling** that ICOMOS is an associate partner of UNESCO, which is subject to Article 41 of UNDRIP, and that ICOMOS is an international organisation concerned with furthering the conservation of cultural heritage, as well as an advisor and supporter of the implementation of the World Heritage Convention, both of which may have effects on Indigenous heritage.
- **Recognising** the role of historical and ongoing colonialism in the systematic erasure and misrepresentation of Indigenous cultural heritage, ICOMOS has a responsibility to redress these negative impacts through critically interrogating its own role in enabling and/or constraining Indigenous agency.

- **Recognising**, in the spirit of UNDRIP, that Indigenous People must be part of decision-making processes that affect them. In particular to identify emerging Indigenous directives, concerns and perspectives on the protection and development of their heritage, including climate change, biodiversity loss, and issues relating to water quality.
- **Recognising** the ICOMOS Working Group on Indigenous Heritage (ICOMOS Canada)
- **Recognising** the Australia ICOMOS Indigenous Heritage Reference Group
- **Recognising** Tautiaki the Māori Committee of ICOMOS New Zealand, the Indigenous Perspectives and Knowledge Working Group of the ICOMOS-IFLA International Scientific Committee on Cultural Landscapes, the Caring for Country Committee of Australia ICOMOS, and other representation of Indigenous peoples in ICOMOS.

Resolutions for decision of the General Assembly ICOMOS:

1. **Resolve** that Indigenous peoples are part of decision-making processes on the ICOMOS Board to provide a voice on heritage for Indigenous peoples.
2. **Resolve** that an Indigenous Advisory Panel be included in the planning and delivery of all future triennial ICOMOS General Assemblies.
3. **Resolve** that Indigenous representation be included on ICOMOS National Committees, where there is an Indigenous presence in that country.
4. **Resolve** that ICOMOS encourage and support its National Committees to increase Indigenous membership, including through ICOMOS Mentoring programs and contact with educational institutions, to encourage student and emerging Indigenous professional membership, where there is an Indigenous presence in that country.
5. **Resolve** that ICOMOS support its National Committees to draft World Heritage site nominations in partnership with Indigenous communities, including through desk reviews and Indigenous representation on the ICOMOS World Heritage panel when Indigenous places are proposed.
6. **Resolve** that ICOMOS encourage the State parties to include Indigenous heritage values of World Heritage Sites and amend the inscription to recognise these values.

References

Apgar, J. M., Argumedo, A., & Allen, W. (2009). Building transdisciplinarity for managing complexity: Lessons from Indigenous practice. *International Journal of Interdisciplinary Social Sciences, 4*(5), 255–270.

Apgar, M. J., Allen, W., Moore, K., & Ataria, J. (2015). Understanding adaption and transformation through indigenous practice: The case of the Guna of Panama. *Ecology and Society, 20*(1), 45. https://doi.org/10.5751/ES-07314-200145

Bouton, A., Allport, T., Kaiwai, H., Osborne, G. P., & Harker, R. (2021). E hoki mai nei ki te ūkaipō – Return to your place of spitiitual and physical nourishment. *Genealogy, 5*, 45. https://doi.org/10.3390/genealogy5020045

Castleden, H., Sloan Morgan, V., & Lamb, C. (2012). "I spent the first year drinking tea." Exploring Canadian university researchers' perspectives on community-based participatory research involving Indigenous peoples. *The Canadian Geographer/Le Geographe canadien, 56*(2), 160–179. https://doi.org/10.1111/j.1541-0064.2012.00432.x

Cruikshank, J. (2012). Are glaciers 'good to think with'? Recognising Indigenous environmental knowledge. *Journal of Social Anthropology and Comparative Sociology, 22*(2), 239–250.

Daniel, R. A., Wilhelm, T. A., Case-Scott, H., Goldman, G., & Hinzman, L. (2022, December 2). *What is "Indigenous knowledge" and why does it matter? Integrating ancestral wisdom and approaches into federal decision-making.* The White House. https://www.whitehouse.gov/ostp/news-updates/2022/12/02/what-is-indigenous-knowledge-and-why-does-it-matter-integrating-ancestral-wisdom-and-approaches-into-federal-decision-making/#:~:text=As%20the%20Guidance%20details%2C%20Indigenous,cultural%20and%20natural%20resources%20

Elder, H. (2022). *Wawata: Moon dreaming: Daily wisdom guided by Hina, the Māori moon.* Penguin Books.

Feek, A., & Morgan, T. K. B. (n.d). *Mauri model analysis: Proposed Rotorua eastern arterial 4 lane highway bypass.* http://mauriometer.org/userfiles//NgapunaFinalReport.pdf

Heritage Chairs of Australia and New Zealand. (2022). *Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia and the best practice standards in Indigenous cultural heritage management and legislation.* Australian Government.

Joseph, R., Rakena, M., Jones, M. T. K., Takuira, J., Te Tai, M., & Rakena, C. (2020). *Stemming the colonial environmental tide: Shared governance jurisdiction and ecosystems-based management over the marine and coastal seascape in Aotearoa New Zealand – possible ways forward.* NSC Sustainable Seas. University of Waikato.

Kiddle, R., Stewart, L. P., & O'Brien, K. (2021). *Our Voices the de-colonial project.* Oro Editions. Gordon Goff.

Lister, G., de Lambert, R., & Titchener, A. (2021). *Te Tangi a Te Manu.* Tuia Pito Ora New Zealand Institute of Landscape Architects.

Mark, G., Boulton, A., & Kerridge, D. (2019). Rongoā Māori is not a complementary and alternative medicine: Rongoā Māori is a way of life. *International Journal of Human Rights Education, 3*(1), art. 12. https://repository.usfca.edu/cgi/viewcontent.cgi?article=1059&context=ijhre

Maxwell, K. H., & Penetito, W. (2007). How the use of rāhui for protecting taonga has evolved over time. *MAI Review, 2*, Intern Research Project. https://www.review.mai.ac.nz/mrindex/MR/article/download/58/58-69-1-PB.pdf

Menzies, D., & Wilson, C. (2020). Indigenous heritage narratives for cultural justice, historic environment. *Australia Icomos Historic Environment, 32*(1), 54-69.

Mugambiwa, S. S. (2018). Adaptation measures to sustain indigenous practices and the use of indigenous knowledge systems to adapt to climate change in Mutoko rural district of Zimbabwe. *Jamba Journal of Disaster Risk Studies, 10*(1), a388. https://doi.org/10.4102/jamba.v10i1.388

Ngāti Whātua Ōrākei. (2018). *Te pou o kāhu pōkere. Iwi management plan.* https://ngatiwhatuaorakei.com/imp/

Parsons, M., & Taylor, L. (2021, June 18). *Why Indigenous knowledge should be an essential part of how we govern the world's oceans.* Greenpeace. https://www.greenpeace.org/aotearoa/story/indigenous-knowledge-essential-govern-oceans/

Smith, A., & Huffer, E. (2021, 2023) Protecting Pacific Ocean biodiversity. The role of intangible cultural heritage, traditional knowledge and the United Nations mechanisms. *Historic Environment, 33*(1, 2). https://australia.icomos.org/wp-content/uploads/HE_vol33-1_2_Protecting-Pacific-Ocean-Biodiversity-The-role-of-intangible-cultural-heritage-traditional-knowledge-and-the-United-Nations-mechanisms-1.pdf

Tāwhai, W. (2014). *Living by the Moon: Te Maramataka a Te Whānau-a-Apanui.* Huia.

UNESCO. (2007). *United Nations Declaration on the Rights of Indigenous Peoples.* https://en.unesco.org/indigenous-peoples/undrip

Waitangi Tribunal. (2011). *Ko Aotearoa tēnei. A report into claims concerning New Zealand law and policy affecting Māori culture and identity.*

Warbrick, I., Mahika, R., Heke, D., Hikuroa, D., Awatere, S., & Smith, V. (2023). Te Maramataka – An Indigenous system of attuning with the environment, and its role in modern health and well-being. *International Journal of Environmental Research and Public Health, 20*(3), 2739. https://doi.org/10.3390/ijerph20032739

Wilkinson, C., & Macfarlane, A. (2021). Braiding the rivers of geomorphology and mātauranga Māori: A case study of landscape healing in Koukourarata. In C. Hill (Ed.), *Kia whakanuia te whenua. People place landscape.* Mary Egan Publishers.

World Trade Organization. (1994). https://www.wto.org/english/tratop_e/trips_e/trips_e.htm

Yates, A., Dombroski, K., & Dionisio, R. (2022). Dialogues for wellbeing in an ecological emergency: Wellbeing-led governance frameworks and transformative Indigenous tools. *Dialogues in Human Geography.* https://doi.org/10.1177/20438206221102957

4.
PROFESSIONAL REGISTRATION

Professional Registration for Landscape Architecture

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This paper aims to explain the registration process and the benefits and implications for professional registration of Landscape Architects.

Background: What is Professional Registration?

Licensed, *registered*, *regulated*, and *chartered* are common terms used by professionals worldwide who have successfully completed professional registration. While there may be nuances in the process, requirements, registering authorities, application of registration, and professional titles, a generalized definition is provided for common understanding.

Professional registration is a process by which individuals can be formally recognized as competent to practice in a particular profession, discipline, field, or trade based on specific skills, qualifications, and experience. Professional registration often includes an evaluation of a professional's knowledge, education, and/or experience to determine if they meet the required standards set by some entity, such as a professional body, government agency, or other regulating authority. Professional registration is an acknowledgement and benchmark of professional competence. Depending on the legal framework in the jurisdiction in which a professional is registered, certain titles and rights to practice may be granted to the registered professional.

The process for professional registration can be explained in three phases:

Phase One: Application

The registration process often requires a professional to complete an application, which includes evidence of their competency as established by a standard-setting authority such as a professional body or regulating authority. Evidence of competency may come in the form of a review of qualifications, experience, completion of specific tasks, training and education, passing a competency exam, and/or continuing professional development. In some registration processes, the information provided by the applicant may be verified by a third party to ensure its authenticity.

Phase Two: Review

Once the professional's registration application is complete and submitted, an authorized organization, such as a professional body or government agency, will then review the professional's qualifications to determine whether the professional meets the standards established for registration in a specific place or jurisdiction. Sometimes, the review process may include an interview with the professional applying for registration.

Phase Three: Recognition

Registration will be granted if the professional's qualifications meet the established standard. In addition, professional designation or title to indicate their standing as a registered professional such as "Registered Landscape Architect", "Professional Landscape Architect", "Chartered Member", etc., will be awarded. In some jurisdictions, the titles associated with registration are legally protected and may only be used by those who have achieved registration status. Additionally, in jurisdictions in which the profession is regulated by the government (or agent of the government), only those professionals who have achieved registration may legally practice and perform tasks established by the regulating authority.

One additional phase of registration, which may not be universal, is *renewal* of the registration status. Some registration processes may require professionals to renew their registration after a set period of time (often several years). Requirements for renewal of registration may include, but not be limited to, the following: paying a renewal fee, demonstration of active practice, completion of continuing education, or passage of a renewal exam.

The Importance of Professional Registration for Landscape Architects

Landscape Architects plan, design and manage natural and built environments, applying aesthetic and scientific principles to address ecological sustainability, quality and health of landscapes, collective memory, heritage and culture, and territorial justice. By leading and coordinating other disciplines, landscape architects deal with the interactions between natural and cultural ecosystems, such as adaptation and mitigation related to climate change and the stability of ecosystems, socio-economic improvements, and community health and welfare, to create places that facilitate social and economic wellbeing.

Despite the impact that Landscape Architecture has on people, places, and the environment, the profession suffers from fundamental misunderstandings among members of the public, government officials, and even other design professionals. In some cases, the profession is subordinated to other registered design professions, such as building architecture and engineering, that do not possess the unique knowledge, skills, and abilities required to practice landscape architecture.

Professional registration is a mechanism that can be effective in addressing the misunderstanding of the landscape architecture profession and offer numerous additional benefits, which are outlined in the section below.

Clear Standards

Professions that require registration frequently establish a standard for competency that is essential in professions that safeguard the general public's health and wellbeing and protect the environment. Because Landscape Architects have an essential role in public and environmental protection, it is important to demonstrate to the public that Landscape Architects are highly technical and well-trained.

Professional registration standards also provide a defined pathway for landscape architects based on verified qualifications. These standards help level the playing field by setting a clear, objective level of qualification and mitigating subjectivity in the process. This is particularly important in helping aspiring professionals understand how best to prepare for entry into the profession and demonstrate that qualifications to practice landscape architecture are just as rigorous as other design professions, such as building architecture and engineering.

Mobility of Practice

A well-structured professional registration system establishes a consistency in

qualification upon which mobility of practice depends. Because professional registration systems usually establish common standards and qualifications, they provide a foundation of trust in a professional's qualifications across borders, making it more likely that professionals can move from one jurisdiction of practice to another and have their qualifications acknowledged as adequate or equivalent. Without this level of assurance, many jurisdictions that have professional registration systems with well-defined standards find it more difficult to accept professionals without unverified qualifications.

Public Protection

A primary aim of professional registration is to protect consumers of professional services and the public at large. This is especially important for landscape architects whose work directly impacts the natural environment and is increasingly focusing on mitigating climate change and can have adverse effects if performed by unqualified individuals.

Professional registration facilitates public protection by:

- Requiring professionals to adhere to standards of practice and conduct;
- Validating the qualifications of professionals to ensure that they can competently practice;
- Providing accountability through an oversight body (often a regulatory authority), which can field and investigate complaints, and, if necessary, administer disciplinary actions to registered and unregistered professionals for misconduct or malpractice;
- Ensuring transparency to the public through information sharing regarding the registration status of a professional;
- Establishing registration renewal requirements for ongoing professional development that ensure that practitioners stay current as the profession evolves.

Credibility & Recognition

Registration demonstrates a commitment to professional standards and to developing and enhancing competence. The title conveyed through registration also demonstrates a professional's commitment to the field, discipline, society, and the environment and reflects the time spent developing skills, knowledge, and abilities a professional has obtained.

For employers, professional registration can provide an assurance that a professional has the necessary skills to perform the work and, in some jurisdictions, that the professional can legally work independently on defined technical tasks and projects.

Protection & Promotion of the Profession

In addition to protecting the public and the environment from unqualified or incompetent individuals who engage in landscape architectural practice, professional registration also prevents unqualified individuals from using the title of Landscape Architect and/or performing the work of Landscape Architects.

In jurisdictions that do not recognize or regulate landscape architecture, the work that landscape architects' perform may be carried out by unqualified individuals. This not only jeopardizes the public but also puts the profession's reputation at risk, as qualified landscape architects are not differentiated from the unqualified. Furthermore, projects and work that require landscape architecture expertise may be awarded to other design professionals or to landscape architects from outside the jurisdiction who are registered elsewhere.

Increased Earning Potential

Professionally registered practitioners are more likely to experience higher earnings across their careers. Many employers believe that employing registered professionals provide benefits, such as increased customer confidence, that may translate into securing more projects and reducing risk by having qualified professionals performing the work.

Because professional registration serves as an indicator of high productivity and knowledge, it can yield a higher wage demand for the professional.

Many studies have shown that unregistered (unlicensed) workers earn 10-15% lower wages than registered (licensed) workers with similar levels of education, training, and experience. Additionally, findings from a study conducted by Oxford Economics on registration (licensure) found that:

- Across all professions and occupations, registration (licensing) is associated with a 6.5% average increase in hourly earnings, even after accounting for the job holder's educational attainment, gender and racial demographics;
- Among professionals in technical fields requiring significant education and training, a license narrows the gender-driven wage gap by about one-third and the race-driven wage gap by about half;
- Minority engineers, surveyors, architects, landscape architects and CPAs can expect an average 8.1% hourly wage increase after becoming licensed in their field;
- Female engineers, surveyors, architects, landscape architects and CPAs can expect an average 6.1% hourly wage increase after becoming licensed in their field.

Challenges and Obstacles to Establishing a Professional Registration System

While professional registration has significant benefits to the public, the environment and the profession, establishing a professional registration system poses challenges that need to be considered.

Securing a Mandate and Consensus on Standards

A mandate from a reliable, credible entity, whether public or private, is critical to the success of professional registration. Professional registration systems are most successful in jurisdictions where the government or industry require registration to practice. Registration may come in the form of government regulation or professional credentials from a non-government organization trusted by the public, consumers and the profession.

Building consensus to achieve this mandate for registration is paramount and requires agreement among many constituencies, including professional associations, regulatory bodies, government entities, and industry representatives. As part of the consensus, the constituencies must come together to agree and support a standard of qualifications that a professional must achieve to become registered; this must be defensible, rigorous, and accessible to qualified individuals.

Resources to Develop and Maintaining a Registration System

A professional registration system entails more than establishing professional practice standards for adoption. A registration system requires human, financial and information technology resources to function in a reliable and credible manner, instilling trust in the registrants, the public, and the profession.

Most modern registration systems provide an electronic, secure and verified compilation of a registrant's qualifications, which may include a registrant's education, work experience, work samples, and examination results. To ensure that the qualifications are genuine, it is important that a reliable system independently verifies the information provided by a registrant. In advanced systems, the verification process may be somewhat automated but still require human resources to review data, process information, and interact with and guide registrants through the process.

Human resources are also an important component of a registration system to ensure compliance with data management and privacy laws and regulations, to maintain and adapt the system rules to meet the needs of an evolving society and profession and to respond to questions and concerns of registrants.

To cover the costs associated with the registration system, registration and transaction fees are commonly implemented to provide the necessary support to registrants.

Ongoing Oversight and Defense of Registration

In most jurisdictions with registration systems, an oversight board exists to review the registrant's qualifications, ensure fairness in the process, field complaints and administer disciplinary actions (when appropriate). Often, the oversight board is comprised of members of the profession and the public whose service is voluntary in nature and supported by professional staff.

Regular reviews, updates, and modifications are necessary to keep the system relevant and effective over time to ensure continued benefits to the public and the profession. Even in jurisdictions where registration is well-established and effective, the merits of registration may be challenged by existing registrants, disaffected professionals who have been unable to achieve registration, and anti-registration organizations and politicians who aim to eliminate or weaken professional registration. Because of this, it is important to regularly promote and communicate how professional registration serves and benefits the public, consumers and the profession.

Conclusion

As the world becomes more interconnected and landscape architecture as a profession is seen to be more prominent and relevant, a global system to register landscape architects is now seen to be essential. Registration is especially needed in parts of the world where landscape architects, with their own unique and specialized knowledge and skills, are not recognized as a profession separate from other design disciplines.

To move towards a common registration system for landscape architects, a supporting framework needs to be developed that can become the basis for adoption. The recommended next steps include:

- General agreement and acceptance of a vision for a global landscape architecture registration system by landscape architects as well as the associations and organizations that represent them on a national level.
- Development of a global professional recognition framework/standard to serve as a common reference of qualifications, which may also allow for recognition of qualifications across national bodies.
- Establishment of policies and procedures to assist in the recognition of professionally qualified landscape architects worldwide.

- A commitment to assisting one another in advocating for the recognition and regulation of landscape architects by governments worldwide.

- The creation of a flexible registration system, which verifies qualifications that are outlined in a professional framework/standard, serving as a centralized repository for landscape architecture practice, including the interface with existing national registration systems.


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5.
IFLA LEADING THE WAY

IFLA Leading the Way: Discussion and Reflections

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Landscape architects hold a vital role in shaping the future of human societies by fostering resilience, embracing transformation, and prioritising the long-term sustainability of environments, cultures, and well-being. Collaborating with various professionals, we advocate for innovative approaches to low-carbon community development, the protection of natural systems, and the integration of the natural environment into human communities. However, these concepts have yet to be widely known among decision-makers and stakeholders affiliated with the built environment. Many sectors still rely on outdated principles, threatening previous investments in outdoor spaces. Landscape architects must act locally, nationally, and internationally as stewards of the environment to protect biodiversity, restore ecosystems, and promote worldwide resilience and well-being.

As such, IFLA can offer valuable assistance both within and outside the profession. We need to take a stronger stand on biodiversity, urging our members to champion the cause globally and collaborate with international, national, and local organisations to reverse the decline in biodiversity and restore sustainable function to landscapes, no matter how small. This concerted effort is essential in the face of increasing challenges and political reality that often favours the economy over the environment. Landscape architects need support to effect change in the ongoing struggle between economic interests and environmental preservation.

The roots of landscape architecture lie in the need to improve the health and well-being of people in cities. Public health, safety, and welfare are fundamental principles in our profession. Therefore, landscape architects recognise their crucial role in designing landscapes that enhance health and well-being, especially considering the impacts of climate change and growing inequities. We call on landscape architects worldwide to become changemakers in global public health. By embedding "health in all landscapes", landscape architects can proactively promote health, prevent illnesses, and facilitate healing and therapy. Our profession has the potential for widespread impact, and we must seize this opportunity to improve the health and well-being of all people in cities.

In a world facing multiple crises, landscape architects are vital in designing

resilient, sustainable, and equitable landscapes that can withstand and recover from environmental, social, and economic stresses. Our expertise in promoting ecological stewardship, resilient design, climate change adaptation, social equity and the right to landscape, food security, education, and advocacy can contribute significantly to constructing a better and more resilient future for our planet. To address such important challenges, it was never so important to maintain high professional standards and ethical practices. By introducing global professional standards and registration, we will allow landscape architects to travel and enrich their knowledge with other ways of thinking and doing. Professional registration is a mechanism that can effectively address the misunderstanding of the landscape architecture profession and offer numerous additional benefits.

The role of landscape architects has evolved beyond designing parks and gardens. They now encompass the entire environment, from urban to regional areas, including tourism-related green spaces, the preservation of national parks, and the recovery of various forms of heritage. Landscape architects are specially trained to contribute to strengthening ecological and social resilience. Currently, our profession faces high expectations regarding involvement in large-scale projects, creating new rural and urban areas while combating biodiversity loss and adapting to climate change. Resilience is the response we must aim for.

As landscape architects benefit from innovative and open thinking, incorporating Indigenous knowledge and traditional practices into education, research, planning, design, monitoring, and management can bring transformative perspectives. This approach also presents an opportunity to build relationships with Indigenous communities, which requires respect, generosity, and ongoing commitment. National members, educators, and practices should recognise Indigenous territories, establish reciprocal relationships, support Indigenous initiatives, integrate Indigenous knowledge and practices, acknowledge Indigenous communities in land-related work, and support Indigenous communities' goal of self-determination.

As a global organisation, IFLA needs to keep working alongside member associations, partners, governmental agencies and international bodies to defend the interests of the profession and to ascertain that landscape architecture is the profession of the 21st century. We are well-equipped to deal with the pressures that will define new ways of living and designing for future generations. To accomplish that, as a professional organisation, we must adopt the following calls for action:

- **Advocacy and Promotion:** IFLA should continue advocating for the recognition and value of the landscape architecture profession on a global scale. This involves actively promoting the role of landscape architects in creating sustainable, resilient, and inclusive environments. By highlighting the importance of landscape architecture in addressing pressing global challenges, such as climate change and urbanisation, IFLA can increase awareness and demand for the profession.

- **Collaboration and Networking:** Strengthening collaborations with other international organisations and professional networks can enhance IFLA's influence and reach. By actively engaging with organisations involved in urban

planning, environmental conservation, architecture, and related fields, IFLA can foster interdisciplinary collaboration and benefit from shared knowledge and resources.

- **Knowledge Exchange and Research:** Encouraging knowledge exchange and research within the landscape architecture community is crucial for staying competitive. IFLA can facilitate sharing of best practices, case studies, and research findings through conferences, publications, and online platforms. Promoting research in emerging areas, such as climate resilience, urban agriculture, and social equity, can help landscape architects address evolving challenges and opportunities.

- **Professional Development and Education:** IFLA should prioritise professional development and education initiatives to enhance the skills and knowledge of landscape architects worldwide. This can include organising workshops, training programs, and continuing education opportunities. Collaborating with academic institutions and promoting accreditation standards can help maintain high professional standards and ensure the ongoing relevance of the profession.

- **Global Representation and Engagement:** Ensuring diverse global representation within IFLA's leadership and committees is important for representing the interests and perspectives of landscape architects from different regions and cultures. Actively engaging with national landscape architecture associations and involving practitioners, educators, and students in decision-making processes can foster inclusivity and a sense of ownership among members.

- **Ethical and Sustainable Practices:** IFLA should continue advocating for ethical and sustainable practices within the profession. This involves promoting principles of social responsibility, environmental stewardship, and cultural sensitivity. Encouraging landscape architects to adhere to high ethical standards and integrating sustainable design principles into IFLA's policies and guidelines can further enhance the profession's reputation and competitiveness.

In conclusion, landscape architects are pivotal in shaping a prosperous future characterised by resilience, transformation, and long-term sustainability. By collaborating with diverse professionals and embracing innovative approaches, we can tackle climate action, protect biodiversity, enhance ecosystems, promote health and well-being, support community participation, embrace technology and evidence-based design, improve food security, design resilient landscapes, and incorporate Indigenous knowledge and traditional practices. Landscape architects and organisations like IFLA must take a stand and work collectively to address these challenges, ensuring a better and more sustainable future for all.

6.
BIOGRAPHIES

Bruno Marques, PhD, MLA, BLA

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Dr Bruno Marques is a registered landscape architect and educator. He completed his Landscape Architecture studies at the University of Lisbon (Portugal) and Berlin Technical University (Germany), followed by his PhD studies at the University of Otago (New Zealand). Bruno has practised in Germany, Estonia, the United Kingdom and New Zealand, having an extensive portfolio of built projects. During the past nine years at Victoria University of Wellington in New Zealand, he has developed a comprehensive research agenda to embrace the formulation of frameworks on landscape rehabilitation, cultural landscapes, place-making and Indigenous community health and wellbeing. He is currently the Associate Dean for the Faculty of Architecture and Design Innovation and the President of the International Federation of Landscape Architects (IFLA).

Kotchakorn Voraakhom

Chairwoman of the IFLA Climate Change and Biodiversity Working Group (IFLA CCB)

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Kotchakorn Voraakhom is a landscape architect from Thailand who works on building productive green public space that tackles climate change in dense urban areas and climate-vulnerable communities. Voraakhom is featured in 2019, TIME 100 Next, a list from TIME Magazine that spotlights 100 rising stars shaping the world's future. She is also on the list of 15 women fighting against climate change from TIME. This year she was named BBC100 Women, the Green 30 for 2020 by Bloomberg. Recently, she got an award from United Nations as Winners of the 2020 UN Global Climate Action Awards, Women for Results. Voraakhom is a Chairwoman of the Climate Change Working Group of the International Federation of Landscape Architects (IFLA World), TED Fellow, Echoing Green Climate Fellow, and Atlantic Fellow. She received her master's in landscape architecture from Harvard University's Graduate School of Design.

Colleen S.L. Mercer Clarke, PhD., FCSLA

IFLA Special Envoy to the International Union for the Conservation of Nature (IUCN)

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As both an ecologist and a landscape architect, Colleen is an advocate for interdisciplinary approaches to the sustainable and resilient integration of nature and society. Currently, through her work to advance action on the crises posed by both climate change and biodiversity loss, Colleen is a strong advocate for the rights of nature and for the shared benefits of nature-based solutions to modern world problems. Colleen has served IFLA as Chair of the Working Group on Climate Change, (2017-2020) and Chair of the Committee on Professional Practice and Policy (2020-2022). Currently, she serves as the IFLA Special Envoy and Voting Member to the International Union for the Conservation of Nature.

Giselle Sebag, MPH

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Giselle Sebag, MPH, LEED AP ND, is the Executive Director of the International Society for Urban Health. She is a globally recognized urban health leader with 15 years of experience advising governments, multilaterals, NGOs, and private sector companies to develop sustainable, inclusive, and resilient cities that promote and enhance resident health.

Giselle holds a Master of Public Health from the Harvard T.H. Chan School of Public Health, joint M.Sc. degrees in international cooperation and urban development from the Technische Universität Darmstadt and international cooperation in sustainable emergency architecture from the Universitat Internacional de Catalunya, and bachelor's degrees in architecture and government from the University of Texas at Austin's School of Architecture (UTSOA) and College of Liberal Arts.

Sarah Ruel-Bergeron, RA

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Sarah Ruel-Bergeron, RA is the Director of Strategic Initiatives & Healthy Housing at ISUH. She is a licensed architect and global health expert who has won awards and international recognition for her work with ARCHIVE Global, implementing housing interventions that improve health outcomes in at-risk communities worldwide. She has participated in expert group meetings with the World Health Organization, the Pan American Health Organization, and UN-Habitat and presented on the topics of healthy housing, implementation, research, and advocacy. Her background includes experience in nonprofits, affordable housing, and healthcare architecture with a focus on sustainable design, resiliency, and hazard mitigation in vulnerable environments.

Maria Gabriella Trovato

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Maria Gabriella Trovato is a licensed Architect and a Landscape Architect with a PhD in Landscape Architecture: Parks, Gardens, and Spatial Planning (UNIRC and the University of Naples, 2003).

Her most recent research focuses on Landscape in Emergency at the NMBU Center for Landscape Democracy (CLaD), Nordic Network for Landscapes and Welfare, HORIZON 2020 on Migration governance, Women in Scandinavian Landscape Architecture, EuropeAid project on Landscape Assessment and waste management, MEDSCAPES project funded by the ENPI/CBCMED, Landscape Atlas for Lebanon, and on FLRM (Forest and Landscape Restoration Mechanism) project funded by FAO and MOA.

She has worked in several countries, teaching landscape architecture at undergraduate and graduate programs, seminars, and design workshops in Europe, Canada, Africa, and the Middle East. She is the chair of the International Federation of Landscape Architects working group Landscape Architects Without Borders (LAWB).

As an architect practising and teaching landscape design, Maria Gabriella is interested in investigating new forms of urban living in a world of change and fluxing conditions. New challenges, like climate change, depletion of natural resources, conflicts between globalisation and local development, and re-localization of war refugees, are constantly shaping new equilibriums. It urges us to respond to them by investigating and proposing combinations of ecological performance and design culture.

Carlos Jankilevich

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Carlos Jankilevich is a Costa Rican architect specialised in Landscape Architecture, Environmental Planning, and Urban Design disciplines. He studied in Buenos Aires, Argentina and London, England. Carlos is particularly interested in Biodiversity, Ecological Regeneration and Cultural Landscapes and has led key initiatives as a member of the International Scientific Committee ICOMOS-IFLA and former IFLA Americas President (2010-2014). He is the Commissioner for Central America and the Caribbean and Chair of the IFLA World Working Group on Agriculture and Landscape. Author of numerous publications and lecturer, Carlos was awarded the First Prize in research at the International Biennial of Costa Rica in 2010 and the IFLA AR Frederick Law Olmsted Prize in October 2022. He was also honoured with a Life Time Achievements Tribute by LALI, the Latin America Landscape Initiative, in November 2022. Co-author of the Latin American Landscape Charter signed in 2018, he coordinates the Landscape Observatory of the University of Costa Rica and is the CeO of Edilis SRL, combining his academic and institutional career with consulting and project execution in Central America and the Caribbean.

Dr Diane Menzies, ONZM

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Soon to attend her tribal annual meeting, Di was told to bring rainwear and gumboots: those lands are deep in silt after a damaging cyclone. She has also been instructed to bring a bag of knowledge.

A director of Landcult Ltd, a research and advisory consultancy, her PhD is in resource studies. She was a director of the Ministry for the Environment, a local government elected representative and a Commissioner for the Environment Court. Di is a past president and secretary general of the International Federation of Landscape Architects, a senior member of Ngā Aho (Māori Designers) and of the ICOMOS-IFLA Cultural Landscape Committee.

James Hayter

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James is the Founding Director of Oxigen, Landscape Architects, Architects and Urban Designers, and Professor in the School of Architecture and Civil Engineering at the University of Adelaide. He is regarded internationally as one of Australia's most respected design professionals having been instrumental in award winning projects including the Canberra Central Parklands and Kingston Foreshores in the ACT, the Tonsley Innovation Precinct and, currently, the redevelopment of Lot Fourteen, the former Royal Adelaide Hospital within the Adelaide CBD. James is a Past National President of AILA, and the Immediate Past President of the International Federation of Landscape Architects. He is a Registered Architect and Registered Landscape Architect, Fellow of the Australian Institute of Landscape Architects, Fellow of the Australian Institute of Architects and International Member of ICOMOS, the International Council on Monuments and Sites.

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Matt Miller currently serves as the Chief Executive Officer for the Council of Landscape Architectural Registration Boards (CLARB). At CLARB, Matt manages and collaborates with the staff team in its execution of the annual scope of work approved and funded by the Board of Directors. Matt also serves as a spokesperson for CLARB and as an ex-officio member of the Board of Directors.

Previously, Matt has served in various leadership roles in professional associations including, Executive Director & CEO at the American Welding Society (AWS), Chief Operating Officer for NACE International, and the Director of the SAE Foundation and Pre-Professional Programs at SAE International.

Matt earned a Bachelor of Science in Education from Indiana University of Pennsylvania in 1997, a Master of Science in Instructional Technology from Duquesne University in 2000, and a Master of Science in Nonprofit Management from Robert Morris University in 2010.

Matt is also serving on the Board of Directors as Secretary/Treasurer of the Council of Engineering and Scientific Society Executives (CESSE).

About the **International Federation of Landscape Architects (IFLA)**

The International Federation of Landscape Architects (IFLA) is the only global professional organisation dedicated to promoting the profession of landscape architecture and advancing the quality and sustainability of built and natural environments worldwide. IFLA is the body that represents 78 national members across five regions (IFLA Africa, IFLA Americas, IFLA Asia-Pacific, IFLA Europe and IFLA Middle East) and more than 50,000 landscape architects worldwide. Our mission is to promote the landscape architecture profession within a collaborative partnership of the allied built-environment professions, demanding the highest standards of education, training, research and professional practice and providing leadership and stewardship in all matters. Our strategic aim is to provide excellent services to our member associations and the extended family of landscape architects worldwide. As a global federation, our allies are international bodies like the United Nations, UN-Habitat, UNESCO, ICOMOS, FAO, IUCN, and WHO, as well as allied built environment bodies like UIA, ISOCARP, IFHP, and WFEO, among many others, where our expertise is required.

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INTERNATIONAL FEDERATION
OF LANDSCAPE ARCHITECTS