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**EUROPEAN LANDSCAPE CONVENTION**

**10th COUNCIL OF EUROPE CONFERENCE ON**

**THE EUROPEAN LANDSCAPE CONVENTION**

**Report**

*“Professional recognition of landscape architects”*

**and draft Recommendation**

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## *Summary*

*The European Landscape Convention and the Recommendation CM/Rec(2008)3 of the Committee of Ministers to member States on the guidelines for the implementation of the European Landscape Convention states on education and training:*

### **1. Education**

#### **European Landscape Convention**

*“B. ... education*

*Each Party undertakes to promote: ...*

*c. school and university courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning.”*

#### **Recommendation CM/Rec(2008)3 of the Committee of Ministers to member states on the guidelines for the implementation of the European Landscape Convention**

*“D. Education*

*While schools in certain states already offer landscape training, such training should be strengthened so as to develop children’s sensitivity to questions which they are likely to experience when looking at the quality of their surroundings. Furthermore, this is a way of reaching a population through the family.*

*This can come about through education in several disciplines, whether geography, history, the natural sciences, economics, literature, arts, architecture or engineering disciplines, or civics education.*

*School curricula at various levels should foster an awareness of landscape themes through learning to read landscapes and through sensitisation to relations between cadre de vie and landscape, to relations between ecology and landscape problems and to social and economic questions.*

*Landscape constitutes a teaching resource because, when reading it, pupils are brought face to face with visible signs of their surroundings that relate to spatial-planning issues. Landscape reading also makes it possible to understand current and historical approaches to landscape production as an expression of a community’s identity.”*

### **2. Training**

#### **European Landscape Convention**

*“ B. Training ...*

*Each Party undertakes to promote:*

*a. training for specialists in landscape appraisal and operations;*

*b. multidisciplinary training programmes in landscape policy, protection, management and planning, for professionals in the private and public sectors and for associations concerned;” (Article 6 of the European Landscape Convention – Specific measures)*

#### **Recommendation CM/Rec(2008)3 of the Committee of Ministers to member states on the guidelines for the implementation of the European Landscape Convention**

*“C. Training*

*Many states now have training for specialists in landscape appraisal and operations. Such training should be encouraged and developed. Courses should be geared to a view of landscape linked to sustainable development, that is, they should train people in the relationship between landscape and economic development, between landscape and the renewal of natural resources and between landscape and social justice.*

*Courses of this nature are aimed at training designers, managers, engineers and technicians specialising in landscape protection, management and planning. They cover both the commissioning and management of projects. They lead to a state-recognised diploma and are now part of a European educational programme under which university exchanges between states are possible.*

*Training meets the needs of all involved for specialist and refresher education:*

- national and local institutions and bodies responsible for landscape and training should promote the setting up of specialist courses aimed at training, on a multi-disciplinary basis, landscape appraisal and operations specialists and offering landscape research training;
- non-specialist university courses should allow for the introduction of landscape themes into the training of technicians whose activities influence a territory's landscape characteristics;
- special information and in-service training programmes should be provided for elected representatives, the technical staff of public authorities of all levels and sectors, professionals in the private and public sectors whose activities affect the landscape (agriculture, cultivation, etc., in such a way as to increase the inclusion of landscape in sectoral policies) and the associations concerned;
- theoretical and applied research programmes on landscape should be developed on a multidisciplinary basis and promoted by states and the other administrative levels in a context of international co-operation. The anticipated contributions of landscape research concern theoretical knowledge, relations between landscape and sustainable development, public policies and their evaluation, links between landscape research and education, landscape economics, the history of landscape and its representations, the relationship between landscape appraisal approaches and public action, the integration of sectoral disciplinary viewpoints in order to appraise places from the landscape perspective, participation of the relevant stakeholders in drawing up and implementing landscape policies and the definition of policy implementation instruments. On the whole, research should be directed more specifically at "action research" whereby there is a close relationship between fundamental research and public action. This link between the two can bring about valuable results for landscape protection, management and planning on the theoretical, methodological and operational levels."

### **3. Putting landscape policies into effect**

#### **European Landscape Convention**

##### **"E. Implementation**

*To put landscape policies into effect, each Party undertakes to introduce instruments aimed at protecting, managing and/or planning the landscape."*

*(Article 6 of the European Landscape Convention – Specific measures)*

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*At the 7th Plenary Session (Strasbourg, 6-8 June 2018), the Steering Committee for Culture, Heritage and Landscape (CDCPP) "decided to include the preparation of the following elements in the Programme of Work and Action Plan for the Implementation of the European Landscape Convention 2017-2019/20, with a view to its presentation at the 10th Council of Europe Conference on the European Landscape Convention, then to the CDCPP:*

*- Report on professional recognition of landscape architects (with reference to article 6, B and E of the Convention);". (Report of the CDCPP Meeting: Document CDCPP (2018) 10 rev.)*

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*The Report "Professional recognition of landscape architects", prepared in the framework of the Work Programme of the Council of Europe for the implementation of the European Landscape Convention, by Mr Michael Oldham as Expert of the Council of Europe, tracks the development of the profession of landscape architecture from its origins in garden design to the present day. It examines the professional training within the field and discusses why it is important to increase diversity in this professional training in response to the changing needs of society and global demands. The Report discusses how the profession is organised nationally and internationally, explaining how, despite international recognition, the profession should be better recognised. It also states, despite a growing understanding of the real financial, social and environmental values of investing in landscape, how*

*funding could be better used to promote development projects that are more sustainable. The Report thus highlights the importance of the contribution of the profession of landscape architects to the well-being and aspirations of society, and considers the need for recognition of the profession by the Parties to the European Landscape Convention.*

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*The draft Recommendation on the professional recognition of landscape architects was prepared on the basis of the above mentioned Report.*

*The Conference is invited to:*

- take note of the Report on “*Professional recognition of landscape architects*” prepared in the framework of the Work Programme of the Council of Europe for the implementation of the European Landscape Convention, by Mr Michael Oldham as Expert of the Council of Europe, which highlights the importance of the contribution of the profession of landscape architects to the well-being and aspirations of society, and considers the need for recognition of the profession by the Parties to the European Landscape Convention;
- to consider the draft Recommendation on the professional recognition of landscape architects and, if appropriate, to decide to forward it to the Steering Committee for Culture, Heritage and Landscape (CDCPP), and then to the Committee of Ministers for adoption.

**Draft Recommendation CM/Rec(2019)... of the Committee of Ministers to member States on contributing to the implementation of the European Landscape Convention of the Council of Europe: professional recognition of landscape architects**

The Committee of Ministers,

Considering that the aim of the Council of Europe is to achieve a greater unity between its members for the purpose of safeguarding and realising the ideals and principles which are their common heritage;

Having regard to the European Landscape Convention (ETS No. 176), which states that “the landscape is an important part of the quality of life for people everywhere: in urban areas and in the countryside, in degraded areas as well as in areas of high quality, in areas recognised as being of outstanding beauty as well as everyday areas”;

Recalling the text of its preamble, according to which “the landscape has an important public interest role in the cultural, ecological, environmental and social fields, and constitutes a resource favourable to economic activity and whose protection, management and planning can contribute to job creation”;

Considering the importance of the physical and mental health benefits and social, cultural and economic benefits that result from investing in the landscape;

Recalling that the Convention “applies to the entire territory of the Parties and covers natural, rural, urban and peri-urban areas” and “concerns landscapes that might be considered outstanding as well as everyday or degraded landscapes”;

Considering that the landscape of urban and peri-urban areas, of everyday life and degraded, must be the object of a particular attention;

Recalling that Article 6.B of the Convention, relating to specific measures to put landscape policies into effect, states that each Party undertakes to promote “training for specialists in landscape appraisal and operations”, “multidisciplinary training programmes in landscape policy, protection, management and planning, for professionals in the private and public sectors and for associations concerned”, and “university courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning”;

Recalling that Article 6. E of the Convention states that each Party undertakes to “introduce instruments aimed at protecting, managing and/or planning the landscape”;

Referring to the provisions of Recommendation CM/Rec(2008)3 of the Committee of Ministers to member states on the guidelines for the implementation of the European Landscape Convention on training;

Wishing to promote the professional recognition of landscape architects;

Recommends that the States Parties to the European Landscape Convention:

- a. formally recognise the profession of landscape architects at national and international level;
- b. increase the diversity of disciplines in the professional training of landscape architects, particularly regarding science, management and planning;
- c. ensure that finance designated for landscape works is used appropriately.

## Report

### *“Professional recognition of landscape architects”*

*Report prepared in the framework of the Work Programme of the Council of Europe for the implementation of the European Landscape Convention, by Mr Michael OLDHAM as Expert of the Council of Europe*

*Mr Michael OLDHAM is Founding President of the European Foundation for Landscape Architecture (EFLA), Honorary Member of the International Federation of Landscape Architects Europe (IFLA-Europe) and Fellow of the Landscape Institute.*

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## Introduction

### The importance of landscape to human society

The Council of Europe clearly recognises the importance of landscape to society. The activities developed in the framework of the Work Programme of the European Landscape Convention demonstrate the wide approach being taken by different states, parties to the Convention, in their interpretation and implementation of these objectives.

The Convention states that each party undertakes to promote “training for specialists in landscape appraisal and operations”, and recognises the need for trained professionals, experts in the broad field of landscape architecture, a profession that applies aesthetic and scientific principles to the design, planning, analysis and management of both the natural and built environments.

However, the impact arising from the lack of a clear professional recognition of experts, practitioners and specialists in the broad field of landscape architecture needs to be considered. In some states, landscape architecture, in all its forms, is a relatively young profession with a limited representation in comparison with other, recognised and older professions.

It is important to recognise that the role of the landscape architect is fundamental to an integrated and holistic planning process which develops landscape strategies alongside social, economic and environmental policies. Ensuring a democratic vision capable of reasserting collective interests, surpassing cultural differences, strengthening the links between people and their environment and establishing landscape policies and programmes that will ensure plural and collective participation, are central to this role.

This report will provide an overview of the profession, presenting how it is regulated both internally and externally, how it is currently recognised by national governments, how the profession is sometimes insufficiently recognised and how important it is to ensure that landscape budgets are used appropriately.

### A brief history of landscape architecture and the development of the profession

Landscape architecture has its roots deeply embedded in nature and culture. Indeed, the heritage of the European city dates back to Hellenic Greece and the establishment of the *polis*. An essential component of the *polis* was the agora. Over 2 500 years ago it was understood that this element, the meeting place or assembly, was key to the aspirations of democracy and community, as well as providing a focus for commerce. The agora was in the public domain, but early examples of historic gardens and private estates also date back over 2 000 years. Hadrian’s Villa, for example, in Italy, provides evidence of the huge value that was given to such developments.

The patios and cloisters of medieval Europe – Christian and Muslim –, the orchards and vegetable gardens used for productive purposes, the great gardens of the Italian and French Renaissance, the Boboli Gardens in Florence, the gardens of the Palace of Versailles, as well as the rural landscapes of Capability Brown and Humphrey Repton in England, also bear witness to the value placed on these kinds of developments. However, what was developing in Europe was by no means unique, these aspirations were also reflected worldwide: unsurprisingly though, always in the domain of the rich and powerful. The Mogul gardens of India and the Imperial Gardens of Japan not only demonstrate this

but also provide further evidence and understanding of why landscape is perceived to perform such a hugely important role in improving the quality of life for those who can afford and benefit from it.

The Industrial Revolution, with the resultant mass movement of people from rural environments to the city, heralded a change with the development of parks and gardens for city dwellers. An example from the United States of America is the development of Central Park in New York (designed in 1857 by landscape architect Frederick Law Olmsted and architect/landscape designer Calvert Vaux). This project was realised on 315 hectares of land acquired by the city authority and was planned to serve as a green lung for the rapidly expanding urban population. Only 15 years later (in 1872) Yellowstone was designated the first national park in the world. There are now over 400 national parks in Europe, and they are managed to provide access to the public for recreational and professional training purposes and to protect special and sensitive landscapes, with particular reference to the interrelations of geomorphology, geology and land use, and including agriculture, forestry and wildness. Since the close relationship between man's intervention and his impact on nature is now better understood, international conventions have become crucial to maintaining a better balance amid increasing global problems.

Investment in landscape, in all its forms, helps ensure harmonious and socially cohesive societies in which cultural and economic development can flourish. The manner in which many communities live, work and play relates directly to their local landscape. The approach to landscape management is crucial to people's livelihoods, responding to socio-economic needs as well as addressing ecological issues, confronting the realities of climate change and preventing unsustainable exploitation, responding adequately to growing urbanisation, industrialisation and pollution, and ensuring innovation, sustainability and quality of life.

Thus, from the great art of garden design, landscape architecture has evolved from its early beginnings as chiefly a design profession to one which now encompasses a wide variety of needs, including regional planning, nature conservation, green routes, woodland management and scientific interest, as well as responding to the rapidly-changing challenges within the urban environment. Indeed, the art, science, planning and management related to the environment are vitally important for humankind and, worldwide, landscape architecture now represents a profession that contributes greatly to modern society. Nevertheless, landscape architecture itself is still a profession that is insufficiently recognised in some states, and yet landscape is internationally recognised as a most valuable asset of the world in which we live. Landscape is the medium in which human life unfolds, it is the medium in which all man-made activities take place and where nature functions, although, as we appreciate, not always in perfect harmony.

### **The multiplicity of actors**

Landscapes are the result of complex socio-economic processes on which a myriad of variables act. In addition, the identity of landscapes is based on its dual natural-cultural dichotomy, which is evident in it being classified under environmental protection acts (laws on the conservation of nature and the environment) and/or on the conservation of historical heritage (laws on the protection of monuments and/or complexes, intangible heritage, etc.).

The complexity of the landscape, which establishes a bridge between science and aesthetics, between the technical and the humanistic, allows many disciplines to converge in favour of its care. These include those capable of analysing and understanding landscape as a biophysical matrix: specialists in

geography, soil science, climate, topography and hydrology; biota specialists such as biologists, ecologists, environmental engineers, forestry engineers and agronomists; and specialists who understand its cultural matrix, such as archaeologists, art historians, ethnobotanists, architects, civil engineers, lawyers and jurists, economists, sociologists and anthropologists.

This degree of specialisation is the climax of a secular process dating back to the classical period, gaining strength in Europe during the Renaissance with the creation of universities and teaching centres, and institutionalised at the end of the 19th century with the creation of academies and similar bodies. It is at this moment – driven by the ideas of Modernity that swept the continent at the beginning of the 20th century – that professional training became specialised, focused and oriented and, while achieving spectacular scientific progress, also lost a broader and more humanistic vision of knowledge.

Perhaps it is this confidence in “specialisation” that introduces a need for a broader vision in landscape projects which is not immediately apparent. However, this lack of definition of a global profile that protects and co-ordinates these differing specialisms is as bad as entrusting an orchestra to play a piece of music without a conductor. Therefore, it is essential and fundamental to have the presence of a professional who has been trained to incorporate the capacity for dialogue and understanding with themes that range from those aimed at understanding the physical environment to those of a greater artistic or historical nature.

A landscape architect benefits from years of specialist professional training in order to qualify. A short module in a degree course in architecture or engineering is not a viable substitute. Their bases are diametrically opposed. Whilst the vision of architecture and engineering work uses inert materials normally generating an immutable project over time, landscape architecture recognises that the scope of its work is based on an understanding of the environment in which we live. Its main characteristic is that landscape is dynamic, affected by constant change, and where the management of the phases through which it will evolve is fundamental.

Landscapes have been created through an organic and cumulative process including both geological episodes and activities lasting many millions of years, through human influence for millennia and by innumerable generations of people. Changes in the physical landscape have accelerated in recent decades, through the effects of demographic change, climate change, economic globalisation, economic crises and social divisions, all of which have disrupted the traditional balance that previously existed between people and place.

Landscape architects are trained to manage these layers and the identities that they provide while ensuring that landscape development will have, if not positive, at least a minimal negative impact on the dynamics and integrity of natural ecosystems. The aim is to reassert collective interests by surpassing cultural differences, therefore strengthening the links between people and their environment in order to ensure a quality of life for all. Knowledge, skills and practical experience in landscape planning and development are used to provide advice to decision makers, administrations, civil society and non-governmental organisations.

## **1. National and international professional bodies and global recognition**

### **1.1. The development of national and international professional bodies**

In the early years of the 20th century, professional institutions that both represented and regulated practitioners began to be formed. For example, in 1929 the Institute of Landscape Architects was established in the United Kingdom. In the first decade, it represented fewer than 50 people: now, after major changes in the 1980s, when the institute changed its name to the Landscape Institute and opened its doors to a wider membership that included landscape managers and scientists, it represents well over 6 000 professional members. In Germany, the profession evolved slightly differently with formal recognition of the profession predating that in the United Kingdom. However, between 1934 and 1945, the term landscape architect was illegal in Germany and replaced by the term garden designer. In order to use this job title, it was necessary to be a member of the Association of German Garden Designers (Bund Deutscher Gartengestalter), which was established in the Reich Chamber of Fine Arts.

Subsequent organisations have been created across Europe: in Germany, at the Technische Hochschule Berlin-Charlottenburg, an Institut für Gartengestaltung (garden design) was created in 1909 and continued at the Humboldt Universität until 1949. The first school to offer teaching in Landscaping in Europe was in Ås, near Oslo, Norway, in 1919, at the Faculty of Agronomists: it continues today within the Institute of Landscape Planning. In the United Kingdom, the Landscape Institute began courses in landscape architecture in 1929, establishing the first higher degree at the University of Reading. The first Landscape Architecture Programme in Poland was established in 1930, at what is now the Warsaw University of Life Sciences. Similar programmes appeared around Europe; in the Netherlands a four-year course has been taught since 1934 at the University of Boskoop, followed later by Wageningen and Amsterdam; in Portugal the first course in Landscape Architecture was created at the Lisbon Higher Institute of Agronomy in 1945, followed by that of the University of Évora; in Denmark the first course was established in 1960, at the Agricultural University, in 1963 at the Royal Academy of Fine Arts and in 1965 at the Architecture School in Aarhus; in Belgium, in Melle and Vilvoorde, specialist courses began in 1956; in Israel a landscape architecture programme began at the Institute of Technology in Haifa in 1982. There are now schools in 29 European states, almost all of which have adopted the “Bologna process”, converging degree structures and sharing standards for quality assurance and common recognition practices.

Indeed, despite the term landscape architect now being commonly understood and used worldwide, the actual use of the word architect is still problematic in some European states, although these are now few.

### **1.2. The International Federation of Landscape Architects (IFLA)**

In 1948 the International Federation of Landscape Architects (IFLA) was founded in Cambridge, England, with Sir Geoffrey Jellicoe as its first President. It represented 15 states from Europe and North America. Later, in 1978, the IFLA’s headquarters were established in Versailles, France: the present headquarters of IFLA are in Brussels, Belgium. IFLA currently represents 76 member professional associations from Africa, the Americas, Europe and Asia Pacific.

### 1.3 Recognition of the profession by the United Nations Education, Scientific and Cultural Organization (UNESCO)

In 1965, IFLA was first admitted to “Category C” of the United Nations Education, Scientific and Cultural Organization (UNESCO).<sup>1</sup> In 1970 IFLA advanced to “Category B”. Finally, in 1987, after many years of discussion with UNESCO and after intensive collaboration, especially in the division of cultural heritage, IFLA was admitted to “Category A”, thus achieving an important landmark for the profession. In July 2012 the IFLA/UNESCO Charter was agreed for landscape architecture education. It expressed the wish to:

- improve the quality of life for communities and all the inhabitants and users;
- recognise and nurture cultural diversity and biodiversity;
- add social and cultural value to sites and outdoor public spaces;
- promote an approach to landscape planning and design interventions which enhances social sustainability, cultural and aesthetic needs, and the physical requirements of people;
- employ an ecological approach to land use planning, design and landscape generation that ensures sustainable development of the built environment through the appropriate integration of biological, land, water and atmospheric systems;
- recognise the role of public realm landscape as a place for social and cultural expression interchange and make these accessible to all individuals and communities;
- promote equity through work with disadvantaged groups or communities and the development of solutions that are affordable and accessible to the broad population.

This charter has helped establish the professional scope of landscape architects and the objectives of their training. These include the interdisciplinary nature of landscape architecture, which encompasses the humanities, natural and social sciences, technology and the creative arts, without forgetting the context of public, social and environmental policies, which help to establish an ethical framework for professional decision making.

### 1.4 Recognition of the profession by the International Labour Organization (ILO)

In some states, such as Spain and Italy, the profession is still very closely associated with the study of architecture. Indeed, in France, Italy and Spain, architects still dispute the use of the title of landscape architect. However, 50 years ago, in 1968, the profession of landscape architect, having by then already existed in Europe for 50 or so years and a hundred years elsewhere, was officially recognised by the International Labour Organization (ILO) in Geneva in a chapter entitled “Architects and Town Planners”. In the most recent edition of ISCO 08, the International Standard Classification of Occupations published by the ILO (2012), landscape architects are classed in group 2162, next to Building Architects in group 2161. On 29 August 1987, the International Federation of Landscape Architects (IFLA) was admitted by UNESCO as a non-governmental organisation (NGO) with an official working relationship with UNESCO.

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1. UNESCO Categories: Category A : consultative and associate relationship (major effective contribution to UNESCO’s work, expanding activities in common, promoting international co-ordination); Category B : information and consultative relationship; Category C : mutual information relationship.

### **1.5 The European Foundation for Landscape Architecture (EFLA) and the European Region of the International Federation of Landscape Architects (IFLA Europe)**

In the same year, 1987, the European Commission decided that sectoral directives in distinct professions were no longer viable; the process of achieving them had been too lengthy and hugely inefficient. This resulted in Directive 89/48/EEC being issued on a general system for the recognition of higher-education diplomas awarded on completion of professional education and training of at least three years' duration. The national professional associations representing the 12 member states of the European Economic Community at that time recognised the immediate need to come together more formally, to harmonise both professional training and practice in the field of landscape architecture. The result was the establishment of the European Foundation for Landscape Architecture (EFLA) in 1989.

Other organisations rapidly formed around EFLA, including affiliated professional bodies representing landscape architects from European states that are not members of the European Union, as well as other organisations, bringing together both students and schools. The European Council of Landscape Architecture Schools (ECLAS) was convened by the Berlin Technical University in 1989. In the same year, the European Landscape Architecture Students' Association (ELASA) was formed, the principal objective of which was "to increase the possibilities for collaboration and exchange between students of landscape architecture throughout Europe, by means of improving the circulation of information and ideas".

One of the principal objectives of EFLA was to establish a common base for the mainstream professional training of landscape architects and to support this with a network of recognised schools throughout Europe. This was assisted by a Schools Recognition Panel which was established to both help with the development of schools of landscape architecture and to regulate their performance and adherence to the standards set by EFLA.

Finally, at the beginning of the 2000s, the world international body, the International Federation of Landscape Architects (IFLA), underwent several important structural changes and EFLA became the European Region of the International Federation of Landscape Architects (IFLA Europe). This succeeding organisation effectively inherited the statutes, regulations and legal status of EFLA as a non-profit making organisation registered under Belgian law. IFLA Europe comprises 34 national representative organisations. As a non-governmental organisation, it not only aims to defend the landscape architecture profession, recognising excellence in professional training courses and promoting the best practice operations in all member states, but also strives to influence and enhance the quality of the landscape. This is now the body which represents the profession across Europe. The membership of this body, which includes member states of the European Union, now more closely reflects the current membership of the Council of Europe. IFLA Europe is included as an observer to the Council of Europe's Steering Committee for Culture, Heritage and Landscape (CDCPP) and the Council of Europe Conferences on the European Landscape Convention. IFLA Europe has a commitment to close collaboration with the Council of Europe, in pursuit of the aims and objectives of the European Landscape Convention.

In recent years, IFLA Europe has contributed to this process by providing documents on several topics: Landscape Democracy (Oslo Resolution 2014); Cultural Landscapes (Lisbon Resolution 2015); Urban Landscapes (Brussels Resolution 2016); Migration (Bucharest Resolution 2017) and Climate Challenges (London Resolution 2018). The objective is to encourage a dialogue not only at

European level but also between professionals and citizens alike, to promote actions in favour of landscape.<sup>2</sup>

Professional associations with membership of IFLA Europe exist in the following 34 states;<sup>3</sup> Austria, Belgium, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom.

A charter was agreed and adopted by IFLA Europe's General Assembly at its meeting in London on 9 September 2018. This charter not only brings together in a single document the details of the organisation and the governance of the body, but also the core requirements for professional training, including reference to the School Recognition Panel, public and private practice, the responsibilities of liberal professionals, intellectual property, professional independence and probity, and also states the organisation's close reference to the objectives of the European Landscape Convention.

Importantly, it defines a landscape architect as “a professionally qualified person recognised by an IFLA registered professional association (or otherwise, as regulated by national law) operating in the field of landscape architecture”.

Landscape architecture is defined as “the profession that applies aesthetic and scientific principles to the analysis, planning and management of both natural and built environments” (as it is also defined by the European Landscape Convention).

Formally recognising this professionally qualified person is a joint responsibility of national governments, the Council of Europe and the European Commission, working in conjunction with the national associations of landscape architects.

However, in this last respect there is also a responsibility for national professional associations to play their part in this process by becoming, if necessary, self-regulatory bodies, involved in professional training and practice, controlling, monitoring and sanctioning, where necessary, the activities of their members, in order to ensure probity, quality of service and consumer protection for the benefit of the public and the clients they serve.

## **2. Landscape architecture professional training and practice**

### **2.1 The development of a mainstream professional training system for landscape architects**

The development of a mainstream professional training system for landscape architects was one of the principal objectives of EFLA and subsequently both IFLA Europe and IFLA World. The European Landscape Convention has also recognised the need for the training of specialists in the domain of landscape architecture and for the establishment and support of schools and university courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning. It also recognises the need for training specialists in landscape appraisal and operations, and that multidisciplinary training programmes in landscape policy,

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2. See Appendix 2.

3. See Appendix 1.

protection, management and planning are necessary for professionals in the private and public sector (Article 6.B).

IFLA Europe recognises the importance of the provision in the European Landscape Convention for awareness raising, training and education and is committed to meeting these needs through the professional training of landscape architects and their application to professional practice. Maintenance of the quality of professional training and professional standards forms a central part of the activities of IFLA Europe.

The definition of the profession of landscape architect for the International Standard Classification of Occupations, compiled by the International Labour Organization in 2012, was the subject of a further study carried out in 2017.<sup>4</sup> This study incorporates the ILO ISCO 08 International Standard Classification of Occupations' global definition of the profession of a landscape architect (2162) and further develops it.

Landscape architects conduct research, analyse and realise the potential of the landscape at all stages, scales and contexts of the development process, including policy development and planning; site inspections and feasibility studies; strategic vision, planning and review; master planning and spatial design; preparation and implementation of detailed design and its long-term management, maintenance and rehabilitation.

The tasks include:

- co-ordination of policies affecting the landscape at a national international, regional and sub-regional level;
- consultation with clients, management and other stakeholders, including national governments, regarding proposed legislation and policy; changes to the planning process; and type, style and size of proposed buildings, parks, sports facilities, roads and other open spaces;
- preparation of planning guidance, codes, environmental and visual impact assessments, guidelines and detailed landscape strategies about implementation, management, maintenance, conservation and rehabilitation;
- research to develop or improve theories, technologies and practices in the arts and sciences of landscape architecture, including the philosophy, theory, practice and pedagogy of design;
- raising of aspirations for quality environments through demonstration of excellence and public engagement;
- connection of spatial strategies and visions to specific proposals, through the planning and consultation processes, acting as expert witnesses at public inquiries, leading, co-ordinating, mediating and contributing to multidisciplinary design teams;
- research and analysis of site and community data, geographical and ecological features, landforms, soils, vegetation, hydrology, visual characteristics and human-made structures, formulating land use, development recommendations and environmental impact statements;
- research and design feasibility studies, strategic reviews and master plans, technical and economic plans for urban regeneration and city building, infrastructure works and reclamation,

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4. A comparative analysis and merging ILO-EFLA-ECLAS Documents, Carlo Bruschi, 2017.

the renewal of transport systems, climate adaptation and mitigation, the siting and planning of new towns, roads, power stations, national pipelines and utilities, the development of strategies for tourism, recreation, agriculture, forestry, conservation and heritage, and the design of ecological, economically and socially sound urban, sub-urban, peripheral, rural and wilderness environments;

- preparing reports, site plans, working drawings, specifications and cost estimates, location and details of proposals, including ground modelling, structures, vegetation and access, landscape management and maintenance plans for new and existing landscape designs and features;
- preparation of schematic and detailed design proposals and appropriate documentation for the implementation of site-specific proposals for open spaces, both public and private, including communication of the proposals for specification, costing and construction, with due regard to costs, function, quality, existing legal, technical and advisory standards and regulations;
- specifications and contract documents, and project supervision, co-ordination, moderation, mediation and implementation, ensuring compliance with regulations and quality standards;
- undertaking planning, design, restoration, management and maintenance of cultural and historic landscapes, parks, sites and gardens.<sup>5</sup>

The profession is still continuing to adapt, responding not simply to society's changing needs and aspirations, but also to constant change affected by global matters such as climate change, environmental awareness, pollution, world economics and legislation. However, the need to produce a more diverse profession, concentrating less on design, is already very clear. Indeed, in some states the profession has already significantly changed in order to embrace other closely related disciplines.

## **2.2 The importance of increased diversity of the profession to address the needs of a changing world and contemporary society**

The world is being subjected to rapid change. Diverse impacts such as climate change and technological advances will transform urban and rural communities. The need to preserve and conserve important natural resources, culture and heritage is now better recognised.

In each state, the circumstances in which landscape architects work and contribute to society vary. There is no standard model that applies throughout, nor should there be. However, a higher degree of harmonisation, both in professional training and practice, is still important to eradicate some inconsistencies that continue to exist and to also assist the free movement of professionals. Therefore, while developing and practising core levels of expertise and skills, there is nevertheless a need for a diversity of professionals who can respond not simply to national differences but also to the rapid change that is affecting society at all levels. Indeed, with respect to the European Commission, the need to adopt a Common Training Framework as prescribed in the Professional Qualifications Directive 2005/36/EC is important in that it provides for a general system of equivalence of professional qualifications. This has been recognised for some time.

At present, in 22 states (Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Turkey and the United Kingdom), there are more than 95 higher

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5. Luengo, Williams and Van den Bossche (2018).

professional training colleges and universities offering over 200 courses which are recognised by IFLA Europe's School Recognition Panel. Graduating from any one of the courses is a fundamental step in demonstrating the equivalence noted above. Nevertheless, the profession needs to continue to strengthen and widen its professional training functions.

For example, in the late 1980s, the Landscape Institute (UK) opened its doors to a range of graduates with a broader expertise in landscape planning, landscape management and science. Now it aims to expand its professional membership once again. The Landscape Institute acts as a quasi-licensing authority, recognised by the British government as a "regulatory body", and one of its central concerns remains to ensure the professional competence of its members and that professional indemnity insurance is carried by all members practising in the private sector. In this way, the protection of the consumer and the general public interest is safeguarded. Aspiring members are obliged, after a minimum of two years following graduation, to present for a Professional Practice Examination, which is a two-stage examination comprising a three-hour written paper: those who pass then undertake a *viva voce*. The process of continuing professional training is enforced through a credit system, Continuing Professional Development. In addition, there is a close relationship with the schools, ensuring a general high standard of professional training.

In some states the schools function simply to provide strongly design-oriented professional training. In addition, in certain states the professional association has no control or influence over the schools, does not have authority to license practice and largely operates to simply maintain a list of professionals over whom it has few powers and exercises little control. These states do not provide a statutory requirement to join the association and many professionals choose not to do so.

There is an increasingly urgent need in Europe for governments to engage with their professional associations not only to further develop professional training and professional training opportunities, but also to establish rules for formally recognising the profession of landscape architect. Society depends more and more on the profession of landscape architecture to respond expertly to challenges such as climate change and degraded landscapes, as well as to improve the well-being of people, especially in cities, and thus improve social cohesion.

Bearing in mind the depth and breadth of expertise that the profession is capable of providing, more needs to be undertaken to properly engage with it. Unfortunately, in some States the opposite is happening. In some circumstances, other professions try to exclude landscape architects from the market. Society at large can, however, benefit from their competence. Effectively, poorly conceived landscapes, "hard" or "soft", urban or rural, often fail, cost huge amounts of money to maintain, systematically drain revenue resources and contribute in some cases to global warming. It is important to note that the way that landscapes are managed has a much greater and longer impact on society than design alone, which is only the start of the process. Ignoring this fundamental consideration in the design stage will inevitably be costly in many dimensions, social, environmental and financial.

### **3. Professional recognition**

#### **3.1 Current situation of the recognition of the profession by some European States and comparison with that of other regions of the world**

The situation regarding professional recognition of landscape architects in Europe is, to say the least, complex.

The publication “The title landscape architect in Europe” (Holden and Tricaud 2008) stated that:

...in general, in north western Europe, [the profession] is well established and recognised *de facto* by the public and private sector. In some states, for instance Germany and Holland, the title is protected while in Scandinavia and the United Kingdom anyone can use the title but in fact the profession is well recognised. In Russia the usual title is ‘Green Engineer’ and [the term] landscape architect has a lesser currency.

In the last decade, however, while there have been some improvements, there have also been some serious disappointments. For example, the title landscape architect is now properly protected in several states, but in others the use of the term landscape architect is still not allowed. In France, to distinguish the profession from gardeners, the title conceptual gardeners (*paysagiste concepteur*) is currently being considered. Unfortunately, while some might be satisfied with this colourful title, it is one that will have little or no meaning for the rest of the world. In this context, the word conceptual relates more to design and completely ignores the planning, science and landscape management roles in which landscape architects are increasingly engaged.

While some states, through their professional training system, maintain that landscape architects can only really be designers, more recently another state now maintains that landscape architects cannot be designers in the urban field, simply because of their science-based training. Croatia declares the view that only architects, architect urbanists and engineers (including electrical engineers) can be designers. A governmental response has stated that:

Regarding the claim that landscape architects have qualifications for performing spatial planning, we note that Landscape Architecture is one of the branches in the scientific field of technical science, classified within the field of architecture and urbanism, whereby the architectural profession gains in completing the university study of architecture and urbanism. Accordingly, we consider that landscape planning should be considered in the context of spatial and urban planning and that the necessary competences for carrying out these tasks ... are Architects or Architect Urbanists.

A similar stance has been taken by some other states. In Slovenia, for example, only architects can perform work in detailed spatial planning and urban plans. This type of legislation discriminates unreasonably against landscape architects, places architects in an especially privileged position and denies the public access to a particular area of vitally important expertise.

It should be possible to adopt a more balanced approach, promoting recognition at governmental level for a strong multidisciplinary approach, in order to meet contemporary problems.

Part 1 (General Principles) of Recommendation CM/Rec(2008)3 on the guidelines for the implementation of the European Landscape Convention states the following:

1.1 A *Consider territory as a whole*

The convention applies to the entire territory and covers natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas. It concerns landscapes that may be considered outstanding as well as everyday and downgraded landscapes.

1.1 B *Recognise the fundamental role of knowledge*

The identification, description and assessment of landscapes constitute the preliminary phase of any landscape policy. This involves the analysis of morphological, archaeological, historical, cultural and natural characteristics and their interrelationships, as well as an analysis of changes. The perception of landscape by the public should also be analysed from the viewpoint of both its historical development and its recent significance.

1.1 I *Develop mutual assistance and exchange of information*

Information exchange, the circulation of theoretical, methodological and empirical ideas between landscape specialists, and learning from these experiences, are of fundamental importance in ensuring the social and territorial relevance of the European Landscape Convention and in achieving its objectives.

### **3.2 Landscape has no frontiers**

In an attempt to achieve a better understanding of the nature of landscape, it is increasingly stated that landscape has no frontiers. The Black Forest in Germany does not suddenly stop at the Swiss border and the Danube with its related flora and fauna crosses a large part of Europe; indeed, it flows through four great capital cities.

Landscape strategic planning at local, regional and national level are important considerations in understanding, protecting, conserving and managing a state's valuable and sometimes diminishing landscape assets. The landscape structures that such studies identify do not stop at the urban fringe of towns and cities. Indeed, in terms, for example, of wildlife vectors, hydrology and ecosystems, it is essential that these interrelated structures do not stop. Encouraging natural landscapes, including urban forests, to penetrate the urban environment by design and management to provide green corridors, linked natural areas, areas for casual and formal recreation and traffic-free alternative communication routes, are essential for modern cities and are likely in the future to gain even greater significance. Green infrastructure, sometimes referred to as "blue-green infrastructure", is a strategically planned network that combines the elements that are essential to urban, climatic and environmental challenges by building with nature. This holistic approach combined with appropriate management is the core of landscape architecture.

In the United States of America, the title landscape architect has been protected through the use of a state register. This effectively licenses landscape architects with a right to practice in 49 of the 51 states. A separate organisation, the Council of the Landscape Architectural Registration Boards (CLARB), exists alongside as a national examination authority. This body exists "to protect the public's health, safety and welfare by establishing and promoting professional licensure standards". The American Society of Landscape Architects was founded on 4 January 1899 to "establish Landscape Architecture as a recognised profession in North America". It currently represents over 15 000 members.

The Architects' Council Europe (ACE) represents over 500 000 architects. It is recognised that it is a very powerful and influential body. By contrast, IFLA Europe represents less than 20 000 landscape architects in Europe practising in a very wide range of activities. About half of these are concentrated

in two states, the United Kingdom and Germany. However, in several European states, regardless of the European Landscape Convention having been ratified, the practice of landscape architecture is still difficult when restrictive practices continue to exist. This situation becomes more complicated when laws require an architect's signature. It would be preferable to adopt and encourage multidisciplinary practice where a more thorough and comprehensive expertise can be applied to development projects.

At the 21st Meeting of the Workshops for the implementation of the European Landscape Convention, "Landscape and education", held in Tropea in October 2018, it was reported that many national associations are constituted in a "chamber" system, for example Bulgaria, the Czech Republic, Germany, Italy, Hungary, the Netherlands and Slovakia.<sup>6</sup> In Spain, however, where there are fewer than 300 landscape architects, the profession is not recognised, it is unregulated and has no statutory reserved functions. In this context, it is particularly concerning that the state work relating to landscape is given to other professionals with no expertise in the field, rather than use the professional expertise that already exists. Why should this be? Who profits from this and who is thus disadvantaged? These are important questions and it would be easy to speculate, but what is equally fundamentally important to recognise is that this is a time of great change, cities will transform rapidly. Entrenched, archaic attitudes and laws can only serve to hinder important progress and seriously disadvantage society.

### **3.3 Regulated professions and the European Union**

The Directive 2005/36/EC on the recognition of professional qualifications came into force in 2007. It is a cornerstone of the European Commission's Internal Market Strategy laid out in Lisbon in March 2000<sup>7</sup> and encapsulates the right to pursue a profession, in a self-employed or employed capacity, in a member state other than the one in which the professional qualifications have been obtained. The Directive 89/48/EEC of 21 December 1988 "on a general system for the recognition of higher-education diplomas awarded on completion of professional education and training of at least three years' duration" provides a general system for the recognition of higher-education diplomas. Both directives incorporated sectoral directives relating principally to the medical profession, vets, dentists, ski instructors and architects.

At the beginning of the 1990s EFLA proposed, through the European Parliament, to draft a sectoral directive for landscape architecture. This initiative was not, however, pursued. The lack of involvement of landscape architects in projects certainly reduces the competition between professional categories. However, society also loses the unique expertise of landscape architects.

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6. Luengo (2018); [www.coe.int/en/web/landscape/21st](http://www.coe.int/en/web/landscape/21st).

7. [www.europarl.europa.eu/summits/lis1\\_en.htm](http://www.europarl.europa.eu/summits/lis1_en.htm).



*Figure 1: States with regulated status in landscape architecture in the European Union*

At present, the European Union “regulated status” is accorded to five states (Germany, Italy, the Netherlands, Slovakia and the United Kingdom), with Iceland in the process of becoming the sixth member of this privileged group. For the profession to be recognised automatically across the European Union, at present, 10 member states need to confer regulated status. With Brexit, the loss of the United Kingdom from the European Union will not be helpful in this respect, although crucially only nine member states will then be required to confirm a general regulated status. Thus, in order to obtain automatic recognition across the European Union, only three more states need to accord “regulated” status to the professional bodies of landscape architects. With regard to the free movement of professionals, IFLA Europe already has in place a standard procedure to help aspiring transnational candidates to complete the process.

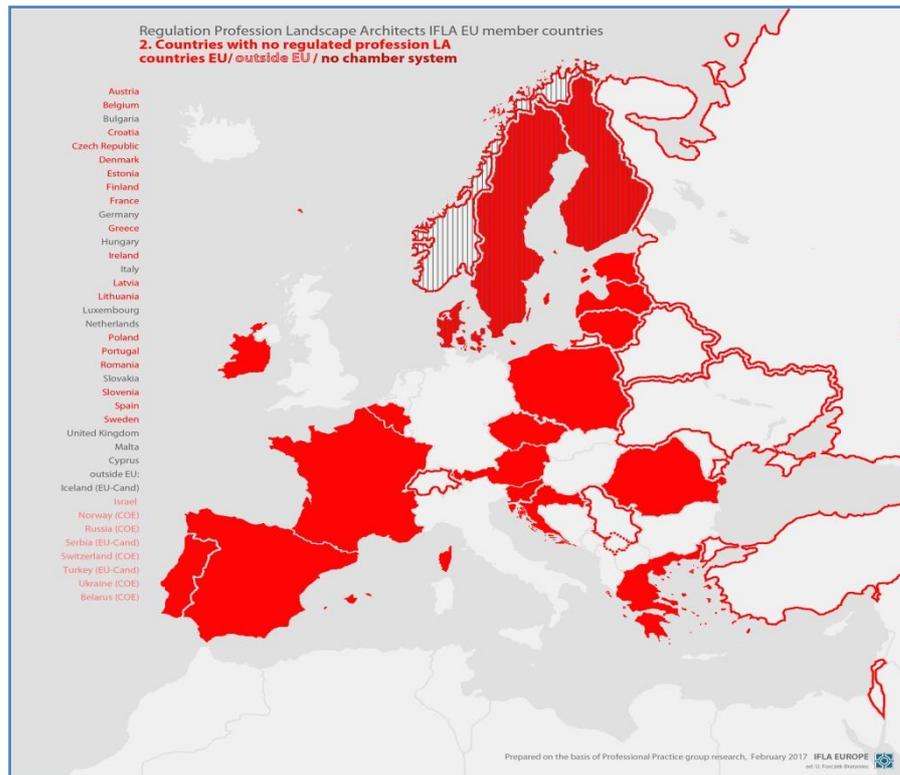


Figure 2: States with no regulated status in landscape architecture inside and outside the European Union

The introduction of a European Profession Card may help to simplify this system, but there is also some consideration in the European Union concerning the Europe-wide deregulation of nearly all professional practice, medicine possibly being the only area to survive this proposal.

#### 4. Investment in landscape

##### 4.1 Design and management

Landscape has always been appreciated simply for its beauty. However, we live in a world where, in order to convince some professional developers, bankers, investors and, particularly, politicians, it is necessary to demonstrate some real monetary value that can be derived from investing in landscape and managing it. Landscape, in broad terms, is often seen as a “cosmetic”, as an add-on, or as an embellishment to a development project, which, in extremis, can be omitted without any real loss. However, in real terms, this loss, although seemingly small on its own, adversely acts to deplete the essential fabric that binds society together.

In a paper on building design, Judith H. Heerwagen asks the question, “What makes a good habitat?”<sup>8</sup> In answering the question, she sets out the following six features: connection to nature; sense of community and belonging; behavioural choice and control; opportunity for regular exercise; meaningful change and sensory variability; and privacy, when desired.

8. Heerwagen (2012).

Connection to nature is not simply direct access to outdoor natural spaces, but also indirect contact such as a view from a window, or even simulations using internal planting, posters and paintings. What is true, however, is that the more complex these interrelationships are, where plants and trees are combined with moving water, for example, this contact generates higher emotional, physiological, social and cognitive benefits, reducing stress and fatigue, improving emotional functioning and improving the ability to focus on important activities (Heerwagen 2000; Heerwagen 2006; Ulrich 1993).

## 4.2 Natural capital

How can landscape, amenity and nature conservation be quantified, both in terms of real monetary value and real financial loss? Putting a monetary value on these has never been considered an easy process. However, at the outset, compared to building costs, landscape is an extraordinarily cheap commodity, representing on average much less than 5% (often no more than 2.5%) of overall development costs. In spite of being more aware of the health and well-being benefits that accrue for society when it has easy access to well-developed green space, there are still difficulties in putting precise financial figures on this.

In this respect, a paper published by the Landscape Institute (UK) in 2011, “Why invest in landscape?”, investigated some wider benefits accruing from seven very different projects. These benefits, quite apart from the direct improvements to the visual amenity, the microclimatic and the ecological/biotic environments, as well as the benefits of pollution reduction, providing green routes (pedestrian and cycle routes away from traffic) and increased safety that such schemes achieve, can be financially quantified, and can be summarised as follows:

- increased visitor numbers, frequentation, shopping numbers;
- job creation;
- increased private-sector investment;
- smoothing the planning process;
- accommodating waste (rather than transferring it to landfill);
- increased saleability;
- increased rental values.

These benefits closely mirror those identified in the United States of America. A paper entitled “Economic benefits of green spaces”<sup>9</sup> found that:

- green space can improve property values;
- investment in green space was contributing to one of the fastest growing industries, the environmental horticultural industry (quoting 1 964 339 jobs and \$95.1 billion in added value);
- there was a business benefit, with an increased value of business premises;
- parks improve property values;

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9. Project Evergreen: [www.projectevergreen.org](http://www.projectevergreen.org).

- views of plants increase job satisfaction;
- nature increases worker productivity;
- green space helps decrease air conditioning costs (some studies show that this can be as much as 20-40%) reduce energy consumption and urban heat. The cooling effect of an average-size lawn is equal to about 9 tons of air conditioning);
- landscaping renews business districts;
- landscaping creates an employment and tourism boost;
- retail activity increases;
- businesses grow;
- drainage systems are protected.

When taking one simple element in the landscape, a tree, an examination of its beneficial impacts indicates that the crown of a mature tree operates as a free-standing anti-flood reservoir. In one year, such a tree can affect the evaporation of 1 500 gallons (5 680 litres/5.68 cm) instead of this falling on the ground and running off. This same tree can achieve carbon sequestration of 9.25 kgC/m<sup>2</sup> cover, giving an estimated urban tree gross sequestration rate per hectare of 0.8 kgC/ha/year; 0.3 kgC/m<sup>2</sup> cover.<sup>10</sup> The paper concluded:

Urban forests can play a significant role in helping to reduce atmospheric carbon dioxide levels. Urban forests are likely to have a greater impact per area of tree canopy cover than non-urban forests due to faster growth rates, increased proportions of large trees, and possible secondary effects of reduced building energy use and consequent carbon emissions from power plants. However, urban tree maintenance emissions can offset some of the carbon gains by urban forest systems.

Decision No. 1386/2013/EU of the 20 November 2013 on a General Union Environment Action Programme to 2020 entitled “Living well, within the limits of our planet”, states that “the Union is densely populated and over 70% of its citizens live in urban and peri-urban areas and face specific environmental and climate-related challenges”.

Two hundred years ago the majority of Europe’s population lived in the countryside and many were agricultural workers; the air was cleaner and the problems of climatic change that are now being experienced did not exist. In the present urban environment, quality of life varies hugely; populations that are usually sedentary need space for leisure and recreation, to benefit from clean air and water, to enjoy traffic-free communication routes and access to nature. Deprived areas, often associated with urban deserts, degraded or absent landscapes, are more often associated with crime and social disruption as well as unemployment, poverty, poor education and ill-health. All these factors impact hugely on the economy of a city, a region or a nation. Analysis of a number of studies clearly demonstrates the human and economic benefits that accrue from access to nature.

Studies of the built environment have tended to concentrate on practices and standards that respond to health and safety, illness and absenteeism associated with poor indoor air quality, but outdoor air quality, particularly in cities, cannot be ignored. Indeed, it is recognised increasingly that poor air quality in cities can contribute significantly to poor health and premature mortality. There are no

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10. Nowak and Crane (2002), pp. 381-389.

standards on how design can promote health, well-being and other positive experiences such as engagement with place and sense of community.<sup>11</sup> Studies over recent decades show that contact with nature generates emotional, physiological, social and cognitive benefits. A study of public housing projects in Chicago<sup>12</sup> demonstrates that housing developments with large trees attracted people outdoors and, once there, they talked to their neighbours and developed stronger social bonds than people in similar housing projects without green space and trees.

Another study conducted in France, carried out on the urban fringe of Dijon, analysed the sale of 2,520 homes (Cavailhès et al. 2006) and showed that the spatial arrangement of trees is a significant factor in house valuation. Even scattered copses of trees within 70 metres of a house have a positive effect on house price.

The term “natural capital” has emerged. It is now in common use and deals with methods to help establish monetary values as a way of presenting useful information to those involved in making strategic, financial and management decisions. The economist E. F. Schumacher originally introduced the term in 1973 with the publication of his book *Small is beautiful*. Indeed, in 2013 the European Union’s 7th Environment Action Programme<sup>13</sup> notes the following as a priority objective: “to protect, conserve and enhance the Union’s [European Union’s] natural capital”.

It is beginning to be appreciated that there are real financial values that can be attributed to the natural environment. However, it is especially important to note that natural capital cannot be easily isolated from the built environment and other modifications to the wider environment. While the terms “capital” and “asset” have different meanings in economics, the terms “natural capital” and “natural assets” are generally used interchangeably.

The Natural Capital Committee (NCC), a group appointed by Her Majesty’s Government of the United Kingdom to advise on natural capital in England, defines natural capital as: “The elements of nature that directly and indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions.”<sup>14</sup>

Members of the landscape profession are now working closely with others to better understand how this can be applied in urban green space situations, as well as working with private landowners in the rural environment. In simple terms, “the natural capital concept involves understanding the environment in terms of the value and benefits it provides to people”.<sup>15</sup>

Landscape architects are especially aware of this concept and are involved in mapping and analysing natural capital assets as part of the initial process of project planning.

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11. Heerwagen (2012).

12. Walker (2003).

13. Decision No. 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 “Living well, within the limits of our planet”.

14. Natural Capital Committee, 2014.

15. Natural Capital Accounting, Landscape Institute Technical Information, Note 02/2018.

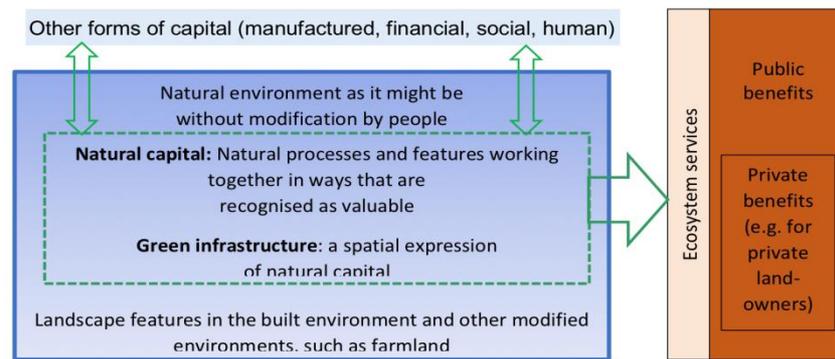


Figure 3: Natural Capital Accounting, Landscape Institute Information Note 02 (2018)

Natural capital is therefore a reference to the stock of natural assets, including trees, parks and gardens, which provide health and well-being benefits to people. In order to capture the financial value of natural capital assets and to quantify the costs of sustaining these benefits over time, a framework has been developed which provides a balance sheet showing the benefits provided by natural capital against the cost of maintaining them. Without going into the detail of how these balance sheets can be applied (there are several references at the end of this report), this systematic analysis can be applied at the local level, as well as at regional and national level. Needless to say, such an approach can significantly aid the production of strategic plans for landscape development, as well as landscape conservation.

These benefits can be quantified. The following example, from the London Borough of Barnet, identifies the principal benefits:

- improved air quality by absorption of pollutants;
- improved local climate by cooling during heatwaves;
- improved resilience to flooding by slowing water flows;
- improved water quality by filtering water, reducing water treatment costs;
- improved opportunities for outdoor recreation in more natural environments;
- improved habitat for a broad range of species.

Each of these has a significant impact on the lives of the people living in the Borough. Using available data and valuation evidence, this report also estimates the monetary value of some of the largest benefits that natural capital assets provide within Barnet. These include:

- recreation: visits made to London Borough of Barnet green spaces have an estimated value of over £41m per year;
- physical health benefits: the value (through the avoided health costs of inactivity) of the physical activity supported by Barnet’s green spaces is over £19m per year;
- property premiums: five case study sites are estimated to provide between £70 and £140m in residential property premiums for the surrounding area. In addition, the same sites may contribute over £0.2m in rental premiums each year;

- climate regulation: carbon sequestered by Barnet's woodland and grassland is valued at over £70,000 per year.

None of these sums are insignificant; in fact, quite the contrary.

Finally, what does it cost to maintain these monetary benefits? It is estimated that about £4.2m is the annual maintenance cost in perpetuity equating to an ongoing capital liability of £134m in present value terms. These costs maintain 200 open spaces and represent the ongoing natural capital maintenance liability on the balance sheet. The population of the London Borough of Barnet is in the order of 390,000. Thus, the cost per head of population in the Borough to maintain this open space is therefore in the order of £10.00 per person per annum.

This is not limited to the urban environment: a natural capital account that puts in place a mechanism for accounting for a series of unintended consequences of current farming practice, consequences that have seen the pollution of aquifers, pollution of the air, destruction and loss of soils (in particular the fundamental destruction of the microbial health that generates natural fertility, systems that have undermined natural resilience), are equally essential to appreciate.

While design is important, it is also very clear that how we manage landscapes, both rural and urban, will have a significant impact on human life and the interaction of people with their local and natural environment. How landscapes are used, how effective they will be in the long term and what their long-term maintenance costs will be have a direct relationship between the initial design and how it is managed. Indeed, the profession is now beginning to have a major impact on contributing to and developing sustainable land management policies.

In simple terms, a poorly designed development project, an ill-conceived landscape or where finance is ignorantly diverted away from capital landscape works will impact hugely on society in many ways. Such failures do not simply diminish legitimately deserved social benefits to urban communities but also create either much higher long-term management costs or abandoned landscapes. A partially, or wholly, abandoned landscape is a common consequence of non-sustainable high management costs and such dereliction contributes to ill-health, drug abuse, criminality and depression, thus reinforcing ideas of exclusion, poverty, poor education and social division.

It is necessary therefore to understand how, in some circumstances, money is diverted away from landscape to fund other things.

### **4.3 Budgeting, allocating, managing and misusing funds for landscape works**

It has already been stated that while landscape is a relatively cheap commodity the benefits of it are potentially huge. A survey carried out across Europe confirms that finance for landscape works is often associated with general development projects, based on new building or more extensive urban redevelopment. Finance for landscape works associated with such projects is generally included in the overall budget for the development. It is also common practice that a sum is included to undertake landscape works at the end of the building contract and this would often be arranged as a sub-contract to the building contract.

Such an arrangement makes sense in reducing the risk of conflicts arising during the building contract, leaving the whole responsibility for managing and executing the project with the main building

contractor. It also makes sense to gather together all the finance for projects, which often require government or local government approval. However, not uncommonly, the finance designated for landscape works is not ring-fenced and is subject to abuse.

It is unfortunate that landscape work is normally executed at the end of a building contract, because problems that arise during the execution of the contract are frequently resolved by diverting money from landscape works. This tendency, aimed to keep overall contract costs within budget, has unforeseen and unfortunate consequences. It also seems that such decisions are sometimes made without reference to the client. A better understanding of the importance of health and social benefits that accrue from planning, designing and managing landscapes should avoid this kind of outcome. However, crucially, when it does happen it effectively defrauds the public of a resource that they can expect to benefit from.

It is not that unusual for the landscape architect to be informed of an overspend in other areas of a building contract which impacts on the money available for landscape works: “Oh, we had a problem with the roof” or “We forgot to measure for the taps”, followed by a comment such as “There isn’t much money left for landscape, you will have to see what you can do”. It is difficult to imagine the situation in reversal: “Sorry, some of the trees cost more than we thought, so you’ll just have to do half the roof” or “You’ll be able to do the bathrooms but you won’t be able to put any taps in.” In either case it does not make any sense.

Each year, inestimable amounts of money are diverted away from landscape works to help resolve problems with foundations, roofs, plumbing complications or to cover minor professional errors or gross mistakes, but the real consequences of diverting such funds is rarely appreciated, let alone understood, or even cared about. What is therefore actually achievable is often an inadequate solution, and there are real and damaging consequences which impact on both the environment and society at large.

At a time when the environment is known to be under considerable pressure, when it is recognised that there is a need to reduce CO<sub>2</sub> emissions, to control rising sea levels and to rethink the urban environment, it is important to understand the implications of diverting funds away from landscape. Each time it happens there are casualties, but who or what are they?

- The end user: whoever the landscape works were destined for does not enjoy the full benefit of the finance originally intended for the project.
- The community in the area where the project is situated. Planting not only benefits a project but may also become a significant landscape element within the local environment. The failure to properly complete landscape works affects everyone in the community. Landscape has no frontiers. The influence of a tree in terms of carbon sequestration does not suddenly stop at the fence. The visual impact is apparent over a large area, as well as its ability to trap small particles.
- The local environment, both in the cost-in-use of a depleted landscape and the costly environmental and social consequences in terms of reduced biodiversity and increased carbon footprint.
- The taxpayers, because invariably they pick up the cost of an increased maintenance budget.

When there is little money left over for landscape works, the solution in temperate climates is usually to simply grass the area, because this is the cheapest way to cover large areas of ground. There is no doubt that the capital cost of providing this is low and, for the project team, it provides a neat solution. The problem seems solved. However, in reality, it is not solved: it is just beginning, as maintenance costs are correspondingly much higher than they should be and the contribution to the local environment is minimal.

Of course, investing in shrubs and woodland does initially cost more, but the long-term maintenance costs are much lower than grass. Trees and shrubs provide a visual benefit to the community as well as enriching the local wildlife. The environmental benefits in terms of biodiversity can thus also be significant. Compare this with a monoculture of grass. Not only does such a solution produce little more than a green desert but, in order to avoid further problems such as becoming a fire hazard, or dereliction, and other anti-social activities such as unauthorised dumping of waste materials, grass needs regular cutting, sometimes with electric machines but more commonly with petrol-driven mowers. How often does the grass need cutting? How long does it take in manpower costs? What are the carbon emissions, as well as petrol costs? How does this contribute to urban heat build-up? Last but not least, who pays for all this? In southern Europe, where grass cutting is less of a problem, vast sums of money are spent on irrigation, in order to keep grass looking good. This has a doubly negative effect: the waste of an important natural resource as well as the energy used in irrigation.

The financial result of this cheap solution, necessitated perhaps because money was unwisely diverted during a building contract, is an expensive barren wasteland the carbon footprint of which is unnecessarily high. Thus, if the project is governmental, central or local, it is the taxpayers who are the casualties in having to fund increased maintenance costs in virtual perpetuity. It is the equivalent of leaving a tap running; worse – if petrol-driven machines are used to maintain it, it is like leaving a hot tap running.

In terms of overall value for money the decision to divert funds is not a good choice. When minor savings are made in a building contract from diverting funds away from planned landscape works, the long-term financial and environmental consequences can be manifest. What seems insignificant to the decision maker is actually the reverse. So why are such decisions made? It can only be assumed that ignorance is to blame, but the result is that the client is defrauded, the end user, the local community, society and the local environment are damaged. It is therefore important to find some means of protecting funds designated for undertaking landscape works.

#### **4.4 Protecting funds for landscape works**

What measures can be put in place to protect allocated funds?

- Exclude landscape works from building contracts.
- Include a requirement in contracts with the project manager, architects and quantity surveyors that expenditure on landscape works can only be modified with the express agreement of the client.
- Include a requirement in the planning process that detailed landscape plans should be submitted with each application and that penalties will occur if those plans are not carried out.

### **Excluding landscape works from building contracts**

Funds for landscape works could be excluded from building contracts with independent landscape contracts following the completion of building works. Building contractors do not focus on landscape works: their priority is to finish the building and move onto the next project. Landscape contractors prefer not to be involved with building contractors as sub-contractors since payment and cash flow is always problematic. However, project managers, architects and quantity surveyors object because they often see this as losing control of a very visible element. They will also argue that the landscape works may not be finished on time with the building. This argument is generally of little consequence. Landscape works are a long-term investment. Indeed, of all the three solutions that are suggested here, this is by far the most effective and the easiest to achieve.

### **Making the client directly responsible for the management of landscape funds**

This method may seem to have some attraction, but it would be necessary to have a high degree of confidence in clients having a well-developed set of moral and social values with the interests of the community particularly at heart. Many private clients are inevitably driven by profit. This kind of solution might work with government or quasi-governmental organisations but is less likely to succeed with private organisations.

### **Making the implementation of “approved” detailed landscape plans a condition of planning consent**

This happens in some states and is a process that could become more widespread. It ensures for the community that the detailed landscape plans that are submitted with a planning application are executed without any major modification. Such a system does require some policing as checks need to be carried out to verify that the condition has been complied with. The downside is that, when intransigent parties do not undertake the works, the sanctions are limited. Litigation and fines are possible, but rarely cost-effective. Nevertheless, this process does generally ensure that the interests of the community are upheld.

### **Conclusion**

#### **Reflection**

A period of particularly rapid change is affecting modern society.<sup>16</sup> Plans for the future can be nullified almost immediately by the discovery, or the development, of new systems. If something can be imagined, it can probably be created. As a consequence, society is constrained more by a capacity to imagine things and manage change than the ability to design and create new things and systems. Now, at the dawn of the Fourth Industrial Revolution, with the advent of the Internet of Things (IoT), artificial intelligence (AI), quantum computing, robotics, biotechnology, driverless cars, air taxis, drones and autonomous vehicles, all dramatically reducing human intervention, it is difficult to speculate where this will take humanity. What is sure, however, is that this will affect everyday life and cities will change: most importantly, however, society can also use the opportunity to learn and benefit from these changes, rather than simply becoming victims of global exploitation.

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16. Oldham (2017) – [www.coe.int/web/landscape/19th](http://www.coe.int/web/landscape/19th).

In his book, “The Fourth Industrial Revolution”, Professor Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, suggests that this revolution is fundamentally different to its forerunners.<sup>17</sup> These earlier revolutions were characterised mainly by advances in technology, and latterly by the potential to connect billions of people via the Web, drastically improving the efficiency of business and organisations, including, for example, the regeneration of the natural environment through more sensitive asset management. This revolution is characterised by a fusion of physical, biological and digital technologies. The rapidity and scope of potential change is unknown, except that it will be vast and will affect every aspect of life. Schwab states that previous revolutions were largely linear in development; this revolution is exponential, expanding in every direction with unforeseen spin-offs occurring all the time. It has the power to completely disrupt society as well as the potential to substantially improve it.

It is impossible to imagine the scale of the transformations that will take place. Will roads be largely abandoned as merely places to park cars? Indeed, why would we need to own a car if a fleet of autonomous vehicles can transport us about the city, about the countryside and about the world and such autonomous vehicles will not even be restricted to the ground? Some reports suggest that car ownership will be abandoned in less than 20 years. What about air taxis, requiring places to land and to park? Why invest in an expensive tram system if it would be cheaper to invest in a vast fleet of 3D-printed electric autonomous cars, available to everyone? Just this one change would substantially transform cities, open manifest opportunities for recreation spaces, public squares, sport and entertainment. Just consider, at present streets are completely littered with cars, many of which are only used 5% of the time. It is now the time to seriously think about citywide green infrastructure strategic planning, the holistic approach that is the core of the landscape architectural profession.

But no one profession is equipped to deal with this, let alone lead other professions in a post-Haussmann revolution. Managing cities is a complex business and urban planning is no longer simply, as it was in Haussmann’s time, a matter of design with strategic military objectives. Indeed, with the advent of the “smart city” opportunities emerge for the development of intelligent, energy-efficient buildings, electric transport systems and low-energy lighting systems, to mention but a few. To manage this properly, society needs a broad range of highly qualified competent people, professionals as well as elected representatives; people not simply with good professional qualifications in a variety of disciplines, but also people with wide experience and, most importantly, vision and commitment.

This is not a time to start drawing demarcation lines, reverting to a guild system, or shipbuilding trade disputes, where shipwrights can only build ships and welders and riveters can only weld and rivet. Society needs strong, multidisciplinary teams capable of delivering well-conceived solutions, especially for urban living. These teams, which would undoubtedly include engineers, landscape architects, architects and planners, might well be driven by economists and social scientists as designed solutions that could easily result in shallow, ill-conceived, short-term solutions. Thus, taking into consideration other factors such as global warming, air pollution, rising sea levels and dereliction, there is an immediate need to set the right targets to sensitively manage the future and move quickly away from archaic professional demarcation rules that really belong to the end of the 19th century rather than the beginning of the 21st century.

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17. Schwab (2016/17).

## Perspectives

The Council of Europe thematic reports on the implementation of the European Landscape Convention<sup>18</sup> set out, in a series of learned articles, the broad spectrum of activities that landscape architects are involved in, in the implementation of the European Landscape Convention. Various articles address in detail the importance of town and regional planning, including the development of landscape policies within the framework of the European Landscape Convention. They recommend new interdisciplinary approaches and organisational structures “necessary to bring together as many different disciplines as possible in order to begin to understand the ‘urban landscape’ as an entity in its own right”,<sup>19</sup> as well as the need “to overcome sectoral fragmentations that reflect the limited views that people and institutions have of ‘their’ part of the world”. This fundamentally important message must be acknowledged.

A report by Ingrid Sarlöv-Herlin on the training of landscape architects summarises an assessment of the then current state of education and professional training of landscape architects in Council of Europe member states to provide broad recommendations on curricula and educational structures, with reference to Article 6.B of the European Landscape Convention.<sup>20</sup> Much of this still applies and, encouragingly, much has continued to develop in the relatively short intervening period. The report, which was assisted in its compilation by the European Council of Landscape Architecture Schools (ECLAS) stated that, since the start of the project in October 2002, the number of European member universities in the Thematic Network Project in Landscape Architecture, LE:NOTRE, has increased from 72 to more than 100. There are now over 200 courses recognised by IFLA Europe’s School Recognition Panel.

Ingrid Sarlöv-Herlin states that landscape architecture is “situated at the meeting point between natural sciences, social sciences and humanities”<sup>21</sup> and that:

...combined with skills in planning and design of landscapes, European landscape architecture education is closely related to the aims and ideas of the European Landscape Convention. Landscape Architects can facilitate an interdisciplinary perspective and a bridging between sectors. For decades, landscape architecture education in Europe has provided multidisciplinary education in landscape protection, management and planning. Landscape Architects are specialised to act as generalists and to propose spatial solutions that involve integrated landscape thinking.<sup>22</sup>

The complexity of European landscapes, coupled with human interactions and interrelationships, has created a study area of considerable breadth and depth. As a consequence, the study of landscape architecture necessitates the drawing on and integration of concepts and approaches from both the creative arts and natural sciences, as well as from many aspects of cultural development,

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18. Landscape and sustainable development – Challenges of the European Landscape Convention: Council of Europe, Council of Europe Publishing, Strasbourg, 2002: <http://rm.coe.int/16804895e6>.

Landscape facets – Reflections and proposals for the implementation of the European Landscape Convention, Council of Europe, Council of Europe Publishing, Strasbourg, 2012: <http://rm.coe.int/16802f299b>.

Landscape dimensions – Reflections and proposals for the implementation of the European Landscape Convention, Council of Europe, Council of Europe Publishing, Strasbourg, 2016: <http://rm.coe.int/1680714487>.

19. Corner 1999; Tress and Tress 2004.

20. Landscape facets, idem.

21. Idem. p. 272.

22. Idem. p. 271.

environmental sustainability and technology, and including both modern and traditional skills. Nevertheless, there still persists a belief in certain quarters that landscape architecture is a “cosmetic” that can be applied to buildings much like a fashion accessory. Nothing could be further from the truth.

In its totality, landscape architecture has less to do with design and more to do with the creation and management of complex inorganic and organic structures that pervade all aspects of life in both the urban and rural context. The more integrated these structures are, linking rural, peri-urban and urban areas, the more successful they are, as well as being more useful and more sustainable. In this respect, there is an urgent need, especially in the context of developing cities, for a holistic, nature/culture-centred approach to the environment and for a humanistic view of the way that the places in which we live, work and play function, both in the present and the future. Indeed, unlike buildings, landscape is alive and dynamic, and the legacy that is left behind cannot be simply destroyed without causing significant damage. It is precisely why landscape and development policies need to be centred on sustainable, affordable solutions which respect nature and the environment, as well as address the needs of mankind.

### **Proposals**

This report has traced the history of the emergence and development of the profession of the landscape architect and how it has evolved to meet the needs of contemporary society. It has also established how the profession is structured, regulated and managed, at both national and international level. Importantly, it touches on the formal training of professionals and how this activity needs periodic modification to reflect how the profession can best serve society.

With regard to the formal recognition of the profession by member states, it accepts that in some states the profession is still in its infancy, but in others, even where it is well established, petty rivalries still exist to exclude landscape architects from certain sectors of work, or even how they may describe themselves. None of this responds to the real, everyday interests of society but simply acts to reinforce an already inadequate system where legislation gives an unfair advantage to one profession over another. Reducing competition and supporting a profession that has limited competence to practice in specific areas do not benefit the public interest. It would be better to encourage a more interdisciplinary approach to the complex problems that challenge modern society.

Real financial as well as important social values can be attributed to landscape assets. The widespread health and welfare benefits accrued from investment in landscape, whether it is associated with new development or with the conservation and protection of existing landscapes, in both urban and rural environments, is understood. The importance of developing regional and national landscape strategies is appreciated, but, systematically, funds designated for landscape works are often too small, or diverted to other purposes. How the Fourth Industrial Revolution will impact on cities is unknown, but the growing importance of green infrastructure strategic planning is becoming more widely appreciated.

In a sense, the landscape profession has come of age, it is internationally recognised and it is generally well educated. However, in some cases it urgently needs to be more broadly educated, more universally recognised in a formal way, and more able to carry out its functions, for the benefit of society and the environment, without being compromised.

Thus, it is important that the Parties to the European Landscape Convention should recognise the important health and welfare benefits that accrue from investing in landscape; increase diversity in the professional training of landscape architects, particularly regarding science, management and planning; formally recognise the profession of landscape architects at national and international levels; and ensure that finance designated for landscape works is used appropriately.

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## Appendices

### Appendix 1

#### List of landscape professional organisations that are members of the European Region of the International Federation of Landscape Architects, IFLA Europe

##### **Austria**

Österreichische Gesellschaft für Landschaftsplanung und Landschaftsarchitektur (ÖGLA)

##### **Belgium**

Belgische Vereniging Voor Tuinarchitecten en LandschapsArchitecten (ABAJP-BVTL)

##### **Bulgaria**

Union of Landscape Architects of Bulgaria (ULAB)

##### **Croatia**

Croatian Association of Landscape Architects (HDKA)

##### **Czech Republic**

Czech Association for Landscape Architecture, section of the Landscape and Garden Society (CZALA)

##### **Denmark**

The Association of Danish Landscape Architects (DL)

##### **Estonia**

Estonian Landscape Architects' Union (ELAU) / Eesti Maastikuarhitektide Liit (EMAL)

##### **Finland**

Finnish Association of Landscape Architects (MARK)

##### **France**

Fédération Française du Paysage (FFP)

##### **Germany**

Bundesarchitektenkammer (BAK)

##### **Greece**

Panhellenic Association of Landscape Architects (PHALA)

##### **Hungary**

Hungarian Association of Landscape Architects (HALA)

##### **Ireland**

Irish Landscape Institute (ILA)

**Iceland**

Felag Islenskra Landslagsarkitekta (FILA)

**Israel**

The Israeli Association of Landscape Architects (ISALA)

**Italy**

Associazione Italiana di Architettura del Paesaggio (AIAPP)

**Latvia**

Latvian Association of Landscape Architecture (LAAB)

**Lithuania**

Lithuanian Association of Landscape Architects (LALA)

**Luxembourg**

Association Luxembourgeoise des Architectes Paysagistes (ALAP)

**Netherlands**

Nederlandse Vereniging voor Tuin en Landschapsarchitectuur (NVTL)

**Norway**

Norske Landskapsarkitekters Forening (NLA)

**Poland**

Stowarzyszenie Architektury Krajobrazu (SAK)

**Portugal**

Associação Portuguesa dos Arquitetos Paisagistas (APAP)

**Romania**

Romanian Landscape Architects Association (ASOP)

**Slovenia**

Društvo Krajinskih Arhitektov Slovenije (DKAS)

**Spain**

Asociación Española de Paisajistas (AEP)

**Sweden**

Sveriges Arkitekter /Swedish Association of Architects

**Switzerland**

Bund Schweizer Landschaftsarchitekten (BSLA)

**Turkey**

Turkish Chamber of Landscape Architects (CTLA)

CEP-CDCPP (2019) 6E

**Ukraine**

Guild of Landscape Architects of Ukraine (GLAU)

**United Kingdom**

The Landscape Institute (LI)

## Appendix 2

### Resolutions from the General Assembly meetings of IFLA Europe

(Extracts)

#### IFLA Europe General Assembly, Oslo, Norway, October 2014

“Landscape Democracy is a form of planning and design in which all citizens are meant to participate equally, either directly or through elected representatives in the proposal, development and establishment of the rules by which their landscape and open spaces are shaped.”

<http://iflaeurope.eu/wp-content/uploads/sites/2/2015/03/IFLA-EU-resolution-Landscape-democracy.pdf>

#### IFLA Europe General Assembly, Lisbon, Portugal, October 2015

“The landscapes we live in are social and cultural interpretations of nature. They represent the living archive of humankind’s technological and social development in its endeavour to adapt itself to natural circumstances. As such, landscape resilience<sup>23</sup> is crucial to people’s livelihoods, and it will provide answers to socio-economic needs as well as ecological issues. As a society, we are confronting the realities of increasingly rapid change and the challenge to create a sustainable lifestyle, while maintaining and improving the quality of life for all inhabitants.”

<http://iflaeurope.eu/wp-content/uploads/sites/2/2015/03/IFLA-EU-Resolution-2015.pdf>

#### IFLA Europe General Assembly, Brussels, Belgium, September 2016

“For the first time in history, more than half the population of the planet lives in cities, which are now bigger than ever. These settlements are presenting unprecedented challenges to society and disrupting our relationship with the natural environment. Understanding cities as landscapes will provide for opportunities linking the past, the present and the future in order to achieve social justice, a sense of place, economic health and ecological integrity.”

<http://iflaeurope.eu/wp-content/uploads/sites/2/2015/03/IFLA-EU-Resolution-2015.pdf>

#### IFLA Europe General Assembly, Bucharest, Romania, June 2017

“In recent years the world has been subject to the greatest migration of all times, in which hundreds of millions of citizens have been forced to displace themselves globally. Conflict and economic inequalities have grown, presenting a challenge to nation states and especially to the European Union. Understanding landscape’s multi-culturality will help put into practice common transnational policies which reinforce the relation between states and establish an equilibrium for sustainable development.”

<http://iflaeurope.eu/wp-content/uploads/sites/2/2015/03/2017-Resolution-Unlimited-Landscapes.pdf>

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23. Resilience is a) the ability of a substance or object to spring back into shape; elasticity; b) the capacity to recover quickly from difficulties; toughness.

**IFLA Europe General Assembly, London, United Kingdom, September 2018**

“Since the second half of the 20th century variations in climate have accentuated: nowadays the change in temperature and rainfall, the rising sea level and the intensification of extreme episodes such as droughts and fires impose severe consequences on biodiversity and people’s lifestyles, not only in our continent but worldwide. In this scenario of change and uncertainty in which variables are yet developing, it becomes imperative that we traduce Climate Challenges into a vision for designing, planning and managing our landscapes, as they will be a fundamental resource for the welfare of future generations.”

<http://iflaeurope.eu/wp-content/uploads/sites/2/2015/03/2017-Resolution-Unlimited-Landscapes.pdf>