Introduction
Landscape architecture practice and related research have alleviated and even solved many of the problems and challenges of urban landscape development in contemporary society. It has done this by promoting provision of spaces, natural elements and processes that supply a variety of ecosystem services, which can be ecologically, socially and/or economically oriented (Cohen-Shacham et al. 2019). As landscapes are under constant development and exposure to various environmental, sociological and economic influences, there is an ongoing need to find new approaches to landscape architecture research, including integrated and urban-specific approaches.

Integration is the act of bringing together different individuals, expertise, or disciplines in a system that functions as one. The need for integration in cross-disciplinary or trans-disciplinary approaches within landscape architecture has been widely stated. For example, Kullmann (2016) reported general fragmentation and loss of disciplinary territory in both theory and practice, and inherent ambiguity regarding the landscape in general and the term ‘landscape architecture.’ Likewise, Jørgensen et al. (2022) emphasized the need for landscape architecture teaching to integrate and encompass approaches from related disciplines.

Apart from dealing with dis-integrated or fragmented approaches to landscape architecture, there is also a tendency for work to be conducted in short-term projects. Many landscape research projects start by seeking solutions to problems with expert-driven definitions. The short-term nature of such projects, which currently define landscape architecture research, impedes efforts to include wider aspects and values of nature in fragmented planning, design, construction and management processes (Randrup et al. 2020a). There may be a need to consider the relationships between the various actors researching or acting professionally with the landscape in a more cyclical way, deriving inspiration from nature with its long-term ecological
processes. However, it is difficult to overcome the short-term character of research-based or practice-based projects, as they are defined by governance structures such as budgets, time, human resources, potential impact and so on. Thus, there is a contradiction between funding agencies and organizations initiating short-term projects and the requirements for sustainable development to embed new landscape initiatives in the long-term.

In this chapter, we present a model for developing urban landscape architecture research projects that are (1) rooted within the local landscape context, (2) consider various interests and stakeholders and (3) address the fact that all projects are led by an organization. Each of these three aspects poses its own challenges. In describing model development, the remainder of this chapter is structured into separate sections dealing with societal challenges of special relevance for the landscape architecture profession; challenges faced by landscape architecture due to its fragmentation; and ways of addressing this fragmentation in the future through new governance approaches, strategic management and a combined governance and management approach. Within a given discourse, our model aims to at least create an overview of the context in which a research project will operate, which includes a description of relevant stakeholders, the power relations between these and relevant regulations governing the project area. Such an overview can be helpful in addressing various societal challenges through integrated and long-term approaches.

**Overall Contemporary Societal Challenges**

Landscape architects have many roles to play in shaping the society of the future. However, as stated by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), increased emphasis on economic and instrumental values and on technocratic solutions (to landscape development) has not hindered the rapid decline of natural areas and biodiversity (IPBES 2019). The International Panel on Climate Change Fifth Assessment Report (IPCC 2014) concluded that human influence on climate change is clear; we are disrupting the global climate, risking severe pervasive and irreversible impacts, but we also have the means to limit climate change and build a more prosperous, sustainable future. The Sixth Assessment Report (IPCC 2021) more clearly emphasized the severity of the situation, with one of its themes being the effect of global warming of 1.5 degrees Celsius. Landscape research and practices have specific possibilities to address climate change through the mitigating effects of landscapes, particularly in urban areas, through provision of green and blue spaces and vegetation (Jackson et al. 2011).

Increasing global urbanization and population growth are other defining trends of the 21st century, with projections showing that this could add 2.5 billion people to the urban population by 2050 (ESPAS 2019). Management of urbanization is a key issue for ecological balance, while actual efforts in landscape architecture practice have direct impacts on daily urban life. Densification is posing a threat to existing landscapes, while urban landscapes are becoming social refuges that are important for maintaining human health and well-being.

Worldwide, rapid urbanization is leading to general loss of biodiversity (Aronson et al. 2014). Provision of varied urban green spaces with suitable habitats for flora and fauna is thus becoming critical (Threlfall et al. 2017). Biodiversity loss can have significant direct human health impacts if ecosystem services are no longer adequate to meet social needs, which can affect livelihoods, income, local migration and, on occasion, even cause or exacerbate political conflicts (WHO 2015).

The relationship between urban landscapes and human health and well-being is well established. However, there is a need for multidisciplinary planning, cross-sectoral collaboration and
community engagement in various development processes to ensure that landscape interventions deliver multiple outcomes and provide a variety of functional opportunities for different population groups (Jansson et al. 2020). Further, urban landscape interventions seem to be most effective when physical improvements are coupled with social engagement to promote the landscape and reach out to new target groups (CE 2000; UN 1998).

A Fragmented Landscape Architecture Profession

Landscape architecture practice is commonly divided into three specializations, that is, planning, design and management (van den Brink et al. 2016). A fourth specialization, construction (including establishment of vegetation) can be added, creating a sequence composed of planning, design, construction and management. This disciplinary fragmentation of the profession is logical and sensible in many regards, as the landscape field is wide, includes multiple processes and requires multiple forms of expertise. However, it also results in dis-integration and even polarization, which hampers collaboration and long-term approaches. While there is a need for collaboration across specializations, there is a chronological – and perhaps hierarchical – order of the various specializations.

The specializations in landscape architecture practice are evident in university departments, in education programs and related studies, in the approaches applied in research projects, in practice and in government departments. Planners, architects and engineers are taught in separate programs, each with its own validity (and often individually professionally accredited), but the net outcome is a collection of specializations and identities. Around the world, operational landscape management training, that is, in maintenance and construction, is generally not part of higher education, but training in tactical management and development of landscapes may be included. In both research and education, a greater focus tends to be placed on the realization of landscapes through combined and transdisciplinary approaches. However, the fragmentation of the wider landscape architecture profession still calls for holistic approaches.

In practice, urban landscapes are developed in hierarchical and chronological ways, starting with plans set by authorities on national, regional, and local levels. From these, more detailed designs are produced, and implemented through construction. Management practices tend to ‘end’ this process or linear logic (Jansson et al. 2019). The processes of local planning, design and construction may have a focus and implementation period of months to years, but management must last for decades or even centuries in the case of the 19th-century city parks and national parks still present in many Western countries.

While spatial planning is a statutory responsibility in most countries, and usually rests with local government, together with responsibility for public health, education and social care, green space provision is not. However, the primary responsibility for development of publicly accessible spaces still lies with the public sector, most frequently local governments (de Magalhães and Carmona 2009). Therefore, despite the well-documented values of landscapes, landscape development is always part of local political priorities (Dobson and Dempsey 2020). Unfortunately, political and funding bodies tend to focus on the development of new landscapes, whereas the less prominent issues of day-to-day maintenance and long-term management are often neglected (Dempsey and Smith 2014).

Thus, viewing landscape architecture mainly through the short-term processes that develop ‘new’ landscapes is rarely sufficient to address the integrated, complex and long-term societal and environmental challenges of today. There is a risk of losing the connection between visionary plans or designs and their fulfillment and of limiting the possibilities for adapting to new visions, new needs and new perspectives over time via long-term management. While cross-disciplinary
research studies, education programs, courses and practices have recently been developed to alleviate or compensate for the fragmented structures prevailing in landscape architecture research, education and practice, the need for applying a holistic and long-term perspective persists.

**New Approaches to Addressing Landscape Architecture Research**

In practice, resources related to the provisioning of relevant landscapes include physical spaces and their qualities, and their development over time by many interrelated actors and practices. When placing the focus on integrated processes and including both the people using these spaces and the organizations developing them, there is a need for landscape research to understand the governance approaches in research, which include disciplines relating to and overlapping with landscape architecture.

**Governance in Practice**

Although they do not have the sole responsibility for developing urban landscapes, local governments are obliged to follow nationally ratified international conventions on the rights of citizens to participate in relevant processes and decision making concerning their local landscapes. Such conventions include the Local Agenda 21 Action Plan (UN 1992), the European Landscape Convention (CE 2000) and the Aarhus Convention (UN 1998). Thus, new approaches to governance through new types of co-development are becoming increasingly relevant in landscape practice. This includes moving from separate landscape practices and knowledge fields toward joint collaborations between various actors and stakeholders.

Governance has been defined as “the sphere of relations between [local] government and other actors in civil society or non-governmental sectors – including the private sector and community” (Smith et al. 2014: 53). Therefore, landscape governance differs from traditional decision making, development and communication, in which landscape professionals play an expert role. Arts and Visseren-Hamakers (2012: 4) defined governance as “the many ways in which public and private actors from the state, market and/or civil society govern public issues at multiple scales, autonomously or in mutual interaction.” This can include governing by, with or without the state. A stricter definition of governance refers to new approaches of governing and organizing political processes in modern societies, while traditional top-down government is viewed as outdated and lacking legitimacy and effectiveness (Arts and Visseren-Hamakers 2012). The ways in which four dimensions – actors, discourses, resources and rules of the game – are interrelated and affect each other in governance of local landscapes has been described as ‘governance arrangements’ (Arnouts et al. 2012; Jansson et al. 2020).

Current governance approaches include new ways of co-developing urban landscapes, implementing knowledge, and improvements through input and collaborations between different actors. New governance approaches are already becoming mainstream in landscape architecture practice, a shift that requires new knowledge, functional tools and processes for implementation, something that can be supported by landscape architecture research. This is underlined by recent studies reporting various challenges relating to governance within government organizations. For example, Qiao et al. (2018) found that sustainable stormwater management is not incorporated into legislation, which may be due to unclear ownership, leadership and distribution of responsibilities in large stormwater management projects. Likewise, Aagaard Hagemann et al. (2020) found that green space managers lack cross-departmental collaboration and identified an urgent need to establish stable networks to take the next step, that is, promoting ecosystem services at the local government level. In a global review of urban forestry management, Ordóñez...
et al. (2019) concluded that lack of knowledge on how local government managers understand, facilitate and find support in management processes, especially those related to coordination of actors and public participation, is a key shortcoming.

**Urban Landscape Management in Practice**

A recent study asked managers of green spaces in the five Nordic countries (Iceland, Finland, Norway, Sweden, Denmark) what they perceived landscape ‘quality’ to be (Randrup et al. 2021). The ‘qualities’ most frequently mentioned were usability and variation, both of which have a clear user-oriented perspective and thus relate to the immediate social relevance of spaces for users. Quality in green spaces is also strongly related to use and users in the four aspects (accessibility, maintenance, nature, facilities) proposed by Fors et al. (2018). According to the green space managers surveyed by Randrup et al. (2021), ecological and economic perspectives inherently underlie the social qualities of a landscape. In being successful or delivering ‘quality,’ landscape managers need to incorporate ecological perspectives (e.g., increase biodiversity) and economic perspectives (e.g., deliver well-kept green spaces at lower budgets). This managerial perspective shows that day-to-day management work can apply cross-disciplinary and long-sighted perspectives in developing and enhancing green spaces.

The European Landscape Convention defines management as “action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonize changes which are brought about by social, economic and environmental processes” (CE 2000: 2). Jansson and Lindgren (2012: 142) simplified the definition of landscape management to “activities performed by a management organization in order to maintain and develop existing urban green space for users.” Similarly, Dempsey and Smith (2014: 24) described place-keeping as “maintaining and enhancing [a place and] its quality to maximize the benefits for users.” The management focus is thus on organizations providing landscapes of value for users, from different perspectives, and adapting to actual needs and preferences. Management is then as much about ‘enhancing’ or ‘developing’ landscapes and their qualities as it is about maintaining landscapes.

The Park-Organization-User model illustrates the relationships between a landscape (park), the users and the organization managing it (Figure 1.1) (Jansson et al. 2020).

‘Park’ in the model can be widened to represent any landscape, or to focus on an ecological perspective related to a variety of vegetated spaces: parks, woodlands, cemeteries, allotment gardens, playing fields, home gardens and other green units in residential areas. The scope of urban landscapes encompasses the entire urban development spectrum, from peri-urban small-scale towns and sprawling, spontaneously growing cities to highly planned urban development projects.

‘User’ in the model represents the community of individual users, user groups (children, young people, the elderly, people with disabilities, ethnic minorities, etc.) and enterprises and their range of needs, behaviors and preferences (Jansson et al. 2020). Such groups place specific demands on landscape architecture and the management and governance of green spaces, but also share preferences, for example, for natural characteristics (Sundevall and Jansson 2020). Accordingly, the importance of various aspects of landscapes changes with user preferences. Consultation and communication with multiple user groups can be a way of making local landscapes more useful, relevant and inclusive for more people, while the influence of various users may also need to be balanced.

‘Organization’ in the model represents any kind of formal owner of a landscape. All landscape owners deal with management issues such as policy making, tactical provision and operational
maintenance. The focus is often on more practical operations rather than long-term vision making, but any decision made about handling the landscape is part of the management of that landscape. As stated earlier, local governments are the key organization in the case of publicly accessible urban landscapes. However, local governments have experienced numerous organizational changes in recent decades and the general focus has been on reducing costs in local government, supported by various management tools introduced in the mid-1980s as part of New Public Management (NPM) reforms (Hood 1995). Conventional contracting-out follows the logic of NPM reforms and applies models that can be categorized as hierarchical governance arrangements, with emphasis on low costs and price competition. Variants of the market-centered organizational approach have been developed with various community-based governance models (Randrup et al. 2020b), leading to multiple governance approaches.

The Park–Organization–User model acknowledges that all management activities involve a formal organization (often landowner) and its relations to the landscape in question, but also various stakeholders, such as users, registered companies, charitable organizations, trusts and mutual and social enterprises. The strength of the model is that it considers all three dimensions of landscape management (space, organization, user) and their interrelations. For example, community–ecological relationships may focus on nature’s provisioning for human health (Hartig et al. 2014) or nature values for humans (Díaz et al. 2018). These are perspectives or ‘demands’ on
Urban landscapes from an anthropogenic perspective. In a management perspective, the ‘supply’ is part of the equation, for example, how organizations and other actors can provide landscapes for human health or increased biodiversity. How to address urbanization via urban landscapes is important in the governance-ecological perspective. The complexity of managing urban landscapes is illustrated by the need for deep knowledge and insights on urban landscapes, but also on different user groups and their needs and preferences. One way forward is to increase the opportunity to work in long-sighted and cyclic processes of re-planning, redesigning and reconstructing, while also maintaining places, an approach which has been defined as “strategic management” (Jansson et al. 2020). It is thus relevant to consider how planning, design, construction and maintenance can be more closely integrated from a strategic management perspective.

**A Combined Governance and Management Approach**

Combined governance and management can be a way of safeguarding and acknowledging different approaches to landscape architecture research, education and practice. The Combined Governance and Management model (Figure 1.2) can be used for overall guidance in such work. It is based on the Park-Organization-User model (Figure 1.1), a policy arrangement approach and the four dimensions constituting a governance arrangement (discourse, related actors, rules of the game and resources) (Arts and Visseren-Hamakers 2012).

For urban landscapes, the governance arrangement often takes place within a public domain and can range from hierarchical to closed co-governance, open co-governance and even...
self-governance. All these aspects are dependent on the local context, with adapted and multiple approaches to governance described as ‘mosaic governance’ (Buijs et al. 2016). The Combined Governance and Management model divides actors into ‘private’ and ‘public.’ Urban landscapes also range from private to public, placing governance arrangements along this continuum. The four interdependent dimensions of the policy arrangement approach are visible in that ‘rules of the game’ are listed next to each ‘actor,’ together with the varying ‘discourses’ prevailing among different actors, posing different challenges to collaboration (Figure 1.2). The ‘resources’ listed next to the related ‘power’ arrows can be adjusted to reflect the power relations between the various actors involved in influencing landscape development. The level of power is indicated through the thickness of the arrows from actors to the landscape. Combining the two arrows in the governance arrangement, that is, the power levels of private and public actors, results in different governance approaches (Arnouts et al. 2012). As an alternative to the fragmented structure within landscape architecture, the Combined Governance and Management model provides a more integrated and transdisciplinary approach, while also supporting a long-term focus on landscape development.

The Combined Governance and Management model demonstrates how various discourses can be directed from both a government and a user perspective. From a government-societal perspective, climate challenges, urbanization, biodiversity loss and human health and well-being issues will require a governmental-ecological response in terms of relevant green spaces (a supply). From a user (social) perspective, the same challenges will require a social-governmental perspective, emphasizing social-ecological needs or demands. From the perspective of the actual green space, a long-sighted solution to the discourse that is local and context-dependent can be applied.

Such combined long-term perspectives on landscape development have been applied by the City of Copenhagen (2016) in its handling of climate change. When planning for climate adaptation, the city envisioned multifunctional solutions using ‘urban nature’ in order to address climate change issues, while also addressing urbanization, loss of biodiversity and using the inherent values of green spaces to support human health and well-being. The city’s overall climate adaptation plan encompasses 300 unique climate-adaptive, urban nature and biodiversity projects intended to transform Copenhagen through the use of nature (City of Copenhagen 2016). These 300 projected projects will have diverse goals, such as cloudburst adaptation and prevention of increases in urban air temperature, and will span different geographical, technical and economic scales.

Local planning, design, construction and long-term maintenance are considered in the city under the umbrella of management, that is, in a strategic management approach. A new ‘tool’ has been created to assess each project’s ecosystem services, information that can be used in the initial planning phase and specifically in the early design phase for the site. Ecosystem services will be prioritized based on site-specific conditions and the designers will apply the results of assessments of ecosystem services to explain to decision makers how the design proposals serve urban nature objectives, while also securing political acceptance and prioritization of the plans. In order to provide urban nature with the best possible growing conditions, the City of Copenhagen has decided that construction and subsequent maintenance should be planned over a 10-year period. Thus design, construction and maintenance have been united to form a new organization to achieve a long-sighted project. A flexible, but still visionary, design will be developed during a dynamic development phase, securing good growing conditions. This is all based on prior political approval and prioritization (City of Copenhagen 2016).

In the City of Copenhagen’s approach, the planning phase ends with political acceptance based on a detailed design recommendation, followed by a combined design, construction and
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maintenance phase of at least 10 years. This requires a visionary landscape design, rather than a fixed design, and a naturalistic vision that will allow local growing conditions to prevail and be decisive for a certain element in development of the landscape. The long-term vision must be sufficiently robust to withstand future unforeseen societal challenges, as well as the inherent challenges posed by organizational and administrative structures in the development of the urban landscapes. However, in addition to the combined design, construction and maintenance organization described, the user perspective should be added. This could be done through various participatory processes in, for example, creative design phases and in the more operational establishment and maintenance phases. The key is to ensure that planning, design, construction and maintenance of the new landscapes are integrated, interlinked and open to engagement by different actors – that is, a combined governance and management approach to landscape architecture.

Discussion and Conclusions

Landscapes are dynamic and under constant development and redevelopment. Climate change, urbanization and loss of biodiversity will continue to pose new challenges in the future in terms of user preferences and needs and prerequisites for new solutions. Such challenges will also affect existing landscape structures that have already been planned, designed and constructed. In these cases, the fragmented landscape architecture profession falls short in providing effective solutions. There is thus a need for interrelations and interlinkages between planning, design, construction and maintenance. For example, combining design and maintenance in management for sustainability, flexibility and realization of landscape architecture goals can provide values through differentiated and creative management approaches (Franch 2018). In practice, however, there is a lack of strategic management in urban landscape development, including little communication between, for example, design and maintenance, causing newly established landscapes to be left to (low) management budgets and nonexpert maintenance staff after construction, with little knowledge transfer in the process (Dempsey and Smith 2014). In many organizations, this fragmentation of expertise has created silos, leaving few with a full overview of the processes from overall planning to operational maintenance (Jansson and Randrup 2020).

Landscape architects are deeply involved with long-term aspects of landscape development in different types of development and participation processes, ranging from overall planning to design and actual implementation by construction and management. With new emerging governance approaches, including and engaging various actors and stakeholders, more flexible collaborations are developing. However, there still seems to be a gap between research and education and the development of governance, power relations, and partnership approaches to various landscape development activities. Practice is often ahead of research but lacking support from research and education.

This chapter addressed the potential long-term perspectives of landscape development for a number of current societal challenges, but also highlighted the implications of a fragmented landscape architecture profession and short-term research approaches. Application of a combined governance and management perspective is suggested as a possible solution. It is possible, within a given discourse, to use a long-term and combined governance and management approach to create an overview of the context, its relevant stakeholders, the power relations and relevant regulations. This can be of value for landscape architecture research, practice and education. The example of the City of Copenhagen shows a way to overcome the traditional division between landscape architecture specializations, in order to work actively with nature and respect nature’s inherent long-term need to develop and thrive.
Establishment of a cross-disciplinary organization addressing landscape research needs and priorities across many formal and informal interests is complicated. The ‘product’ and related services developed by such organizations range across, for example, ownerships, expertise, institutionalized approaches and, not least, economic issues. However, cross-disciplinary approaches provide the possibility to move away from traditional specialized, fragmented and short-term perspectives and achieve holistic, long-term sustainable development.

References


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