

## 5

# User-oriented urban open space governance and management

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## Introduction

Governance and management of urban open space (UOS) affect the qualities and properties of UOS in relation to its use potential, which is determined by its content, quality, access and context. UOSs are visited or perceived by people, or users, for various activities, or uses (Jansson & Lindgren, 2012; Dempsey & Smith, 2014). Thus UOS governance and management can adapt to, support or encourage use and thereby provide ecosystem services that lead to various user benefits.

There are generally no binding or legal responsibilities for organisations to provide people with high-quality UOS; rather, this is an implicit demand (de Magalhães & Carmona, 2009). Yet UOSs and their management – in public but also semi-public and sometimes private UOS settings – can provide well-being and equity (Jennings et al., 2016) and are important in supporting various user groups.

In this chapter, we describe how user-oriented governance and management approaches to UOS can adapt to, support or encourage various uses, focusing on user groups with specific needs, such as children, young people, the elderly, people with disabilities and ethnic minorities.

## Preferences for UOSs and their management

Research has identified several relationships between the perception of environments and human well-being that are relevant for UOS governance and management. Grahn and Stigsdotter (2010) describe eight perceived sensory dimensions of green spaces that are generally preferred and their variety. These are, in order from most to least preferred: serene (silent and calm), space (spacious, a coherent whole), nature (wild), rich in species (various plants and animals), refuge (safe, secluded, seating), culture

(historical and cultural elements), prospect (open surfaces, vistas) and social (meeting places, pleasure) (Grahn & Stigsdotter, 2010). These dimensions are connected to activities on a scale from passive to active use. Similarly, Carr et al. (1992) describe people as attracted to public spaces that allow them to meet five needs: comfort, relaxation, passive engagement, active engagement and discovery. Another relevant theory is the so-called preference matrix, with coherence and complexity (to make sense) and legibility and mystery (to get involved or interested in) described as four essential qualities in green spaces (Kaplan & Kaplan, 1989).

The concept of affordances is also relevant. According to Heft (1988, p. 32), affordances are ‘perceived qualities that emerge from person-environment relations’. They are the perceived meaningful action possibilities in an environment. A tree can afford walking in shade, picking fruits or climbing, while a pond can afford water play, bird watching or meditation. These individual perceptions of possible uses are affected by various norms and change over lifespans, with season, weather, time of the day, etc., but depend strongly on properties and qualities of UOS, such as maintenance level, design and content.

People who seek out UOS look for specific qualities and properties in order to find environments and affordances matching their needs, so-called person-environment fit, which depends on environmental, social, demographic and individual factors (Kahana et al., 2003). For example, people experiencing much stress tend to prefer the dimensions refuge, nature and rich in species more than others (Grahn & Stigsdotter, 2010). By contrast, people engaged in foraging may value particular species, based on, for example, edibility, that may be seen as serving other functions (e.g. wildlife habitat) or not seen as valuable (e.g. invasive

species). Such variation in users and uses is a challenge for UOS managers.

## User-oriented UOS governance and management

A UOS **open space** governance and management approach that is user oriented (Jansson & Lindgren, 2012) requires interest and knowledge of both users and uses. In general, it is important to provide variation, adapt to a multitude of local uses and users and continuously re-develop spaces. Examples include mowing grass more often to facilitate ball sports, placing benches along a path favoured by the elderly or reviewing rules on allowing plant harvesting.

User-oriented UOS governance and management often require collection of user information to analyse the local situation. Managers may gain inspiration based on observations of use, data on demographics, surveys, e-tools or theoretical knowledge on different user groups, behaviours or preferences. Critical analysis of such information is important, as it is not always the most common or noticed users who need the most support, and some users and uses may be invisible or problematic. It can also be of value for managers to inform users in various ways, increasing the knowledge and understanding of UOS and its management. This can be done through signage, media, social media, etc. (Figure 5.1).

In order to manage in a user-oriented manner and to build partnerships, it is important to initiate two-way communication with users through, for example, workshops, focus group interviews or e-tools (see Chapters 7 and 10). Today, most management organisations, particularly local governments, have ways for users to comment



**Figure 5.1** Signage in Edinburgh, UK, where the local government is informing users about its management approach. *Photo: Märit Jansson*

or submit requests. Some also have close contact with interest groups concerning, for example, access for the disabled; organising walks focusing on, for example, perceived safety; or educating and learning from local users through various projects or guided tours. One step further is to invite users into decision making or other forms of active participation through various levels of co-governance, as further described in Chapter 7.

### *Providing accessibility and quality*

In UOS, quality and accessibility are two aspects that are both highly intertwined and of critical importance for use. Although quality in relation to UOS is dependent on various, often individual, factors, there are

some general quality aspects – for example, accessibility, maintenance, nature and facilities (Fors et al., 2018). Bell et al. (2003) identified the social, experimental, ecological and functional as important dimensions of woodlands, which can be interpreted as four main aspects of user quality, related also to accessibility. Good accessibility is a quality of great societal importance, often a precondition for use (Van Herzele & Wiedemann, 2003). Achieving accessibility in UOS across abilities can give very positive experiences, as found among people with learning disabilities (Mathers, 2008). Exclusion of users, on the other hand, is experienced as highly negative, such as when playgrounds are ill fitted for children with disabilities and their parents (Prellwitz & Skär, 2017).

Proximity is a highly relevant aspect of accessibility, as people mainly experience

UOS close to where they spend time, live, work or commute and rarely compensate for lack of nearby green spaces by visiting more remote UOS. People living close to ample green spaces with suitable facilities are more physically active than others across ages and ethnicities (Kaczynski et al., 2014). In general, people with access to many urban green spaces are healthier, but this effect can depend on the type and character of the spaces (Weeler et al., 2015). Growing up in an area with many green spaces is associated with good mental health (Engemann et al., 2019). Distances of a few hundred metres often determine the frequency of visits, which affects reported stress, health and quality of life (Stigsdotter et al., 2010). In order to provide benefits for people, it is, therefore, valuable to consider accessibility through proximity. However, true accessibility is also affected by factors such as barriers, usability and social inclusion.

Accessibility and quality interplay at various urban scales and through several factors, from individual gardens to entire neighbourhoods. These factors can include high residential density and mixed land uses (offering services and facilities close by), accessibility (easily reached green spaces), connectedness and permeability, legibility (quality and number of nodes and landmarks), attractiveness (user perceived, amount of greenery), inclusiveness (pedestrian friendly, welcoming to all), maintenance (level, amount of litter), safety and character (Dempsey, 2008). Most urban residents prefer signs of human care in UOS (Nassauer, 1995), particularly in their immediate residential environment, for a local place identity (Jorgensen et al., 2007). Many also have an equally pressing need for accessible wilderness-like areas (such as woodlands) close to home for restorative experiences. Jorgensen et al. (2007), therefore, suggest

providing access to a wide range of UOS types close to residential settings so that residents can choose the way in which they use and interact with UOS.

### *Supporting perceived safety*

A common issue among users is the perceived fear in UOS, particularly within some groups, due to perceived vulnerability or past experiences of crime, even though they are often not likely to be victims of crime (Sreetheran & van den Bosch, 2014). This includes the elderly, who are dependent on perceived safety for their residential satisfaction (Kahana et al., 2003), immigrants who might be anxious due to low language proficiency (Wu & Wareham, 2017) and women (Koskela, 1999). Perceived unsafety outdoors limits many people in their social lives and physical activities, with negative consequences for well-being. The reasons are complex, often based on both social and individual aspects (Sreetheran & van den Bosch, 2014). Physical properties, which are much affected by the way a UOS is managed, have a large impact on the experience, particularly after dark and where vegetation is free-growing or unmanaged (Jansson et al., 2013).

Aspects affecting perceived safety include a readable and unified landscape design with a low degree of closure (e.g. vegetation only on one side of a path) and good possibilities for overview and control, including the possibility to escape or see other people approaching and evaluate whether they pose a potential threat. This can be achieved through strategic lighting and vegetation designs allowing visual access and ease of movement – for example low vegetation density between knee and eye level. Vegetation character and maintenance are also important – i.e. preventing poorly maintained, vandalised and littered

UOS (Jansson et al., 2013). A challenge when managing for increased perceived safety is to retain an attractive vegetation character and its benefits, as very simple, safety-promoting concepts might result in less attractive UOS. As there is also a need for more wild and varied UOS characters, providing choices between routes and areas with various types of management approaches might be valuable also in this respect (Jorgensen, 2007).

### *Providing multifunction and flexibility*

In order to provide all functions needed in UOS and to adapt to changes in uses and users, multifunction and flexibility are needed. New approaches might balance between different types of multifunction. UOS management often needs to enable social and ecological functions to co-exist (Shams & Barker, 2019). This can include biodiversity, protection of vulnerable ecosystems and species, cultural heritage and stormwater management. Legislation might protect some areas and guide

governance and management. Managing UOS for a multitude of ecosystem services and values can, therefore, mean regulating its use. When considering mainly social multifunctions, there are different approaches, such as providing places to support specific uses (boule courts, skate parks, playgrounds) or striving for total multifunction, to fit several users (see Box 5.1).

Social activities in UOS are much appreciated among many user groups, including different ethnicities (Ordóñez-Barona, 2017). UOSs often act as meeting places and, with deliberate design and management, can facilitate social cohesion and integration of immigrants (Van der Jagt et al., 2016), encouraging active use by diverse users, avoiding over-regulation and leaving room for self-organisation (Peters et al., 2010). There is a need for different 'social environments' that are inclusive for all users (Haase et al., 2017). Complex and diverse UOS can provide various affordances for multifunction and is often preferred over monotonous areas. Lawns can be developed by adding sensory experiences – for example

## BOX 5.1: APPROACHES TO MULTIFUNCTION IN URBAN OPEN SPACE

Multifunction in UOS can mean different things and be of various types. Rode (2016) defines three types of spatial multifunction:

- **Tessellated** (mosaic) multifunction (separated functions within an area)
- **Partial** multifunction (combination of functions within an area, with one or two dominating)
- **Total** multifunction (a balance between different functions within an area).

Multifunction can also be based on time (Ahern, 2011):

- **Time-based** multifunction (several functions within an area but at different times).

variations between cut grass and meadow – and providing more affordances (Ignatieva et al., 2017). If thoughtfully managed and designed, some UOSs can provide multiple and better functions and values. For example, social inclusion can be supported where UOSs are shared between preschools and

homes for the elderly (partial or time-based multifunction) or between children in playgrounds and elderly people doing community gardening (tessellated multifunction) (see Box 5.2). However, not all functions can be successfully combined and aiming for too much ‘multifunction’ within a

## BOX 5.2: MULTIFUNCTION IN EAST VILLAGE, CALGARY, CANADA

The UOS Crossroads in East Village in Calgary, Canada (Figure 5.2), was developed in 2016 through a closed co-governance approach, supported by local politicians and managers. It provides social functions across the generations and ecological functions. In response to requests from nearby homes for the elderly, facilities for community gardening are provided. A playground, a small square with chairs and tables and parcels of meadow are located close by. This is an example of mainly tessellated multifunction, with various functions mostly separated but located together.



**Figure 5.2** Playground, community garden and square in tessellated multifunction at Crossroads, Calgary, Canada. *Photo: Märit Jansson*

limited space can instead decrease both values and uses – for example, by heavy wear and tear or users disturbing each other.

Places and elements can be both programmed (benches, gym and play equipment) and non-programmed (rocks, hills,

vegetation, sculptures, walls, etc.) for use. Programmed elements can be inviting to specific users or signal what is allowed but have the possible disadvantage that the use is steered or excluding. Therefore, non-programmed places and elements that bring

## BOX 5.3: TAMING THE INFORMAL IN HIGH LINE PARK, NEW YORK CITY, US

One UOS that has been developed based on an informal character is High Line Park in New York City, US (see Figure 5.3), the subject of much fascination and criticism for being ‘over-managed’ and gentrified. In 2009, an abandoned and overgrown elevated railroad track in Manhattan’s West Side was re-designed into a public park, but critics claim that too much of the informal character has been lost and thereby also many of the possibilities for creative uses (Millington, 2015).



**Figure 5.3** The High Line, New York City, US, where the informal character has been tamed.  
 Photo: Johan Östberg

a multitude of affordances and flexibility of use are valuable, including many informal, in between or abandoned UOSs. Such places are appreciated because they impose little restriction and can provide biodiversity, nature contact (Rupprecht, 2017) and a feeling of wilderness or escape for children, for example (Jansson et al., 2016). Many researchers, including Qviström (2011), stress the importance of keeping informal areas as attractive features and warn that recreational values risk disappearing if they are ‘over-managed’ (see Box 5.3). However, not everybody appreciates informal aesthetics, and it can be important to deal with, for example, litter, weeds, pests or animals since ‘even a minimal level of management [maintenance] could improve both perception and recreational value of informal green spaces’ (Rupprecht, 2017, p. 19).

Multifunction, particularly time based, is also connected to flexibility. Flexibility over time can be necessary for long-term UOS quality, as the qualities sought change with societal changes but also for short-term or seasonal changes. Such flexibility can support community initiatives (Brinkhuijsen & Steenhuis, 2015) and allow well-functioning temporary uses, such as festivals. Some seasonal happenings connected to UOS and culture require active management, like ice skating or the traditional hanami, when springtime cherry blossoms are viewed and celebrated with picnics in specific UOSs in Japan.

## Adapting to various uses

### *Various uses and potential conflicts*

Uses of UOS shift over time and contexts, as related to various users and roles, and can be categorised in several ways. Fongar

et al. (2019) describe uses as extrinsic (dog walking, foraging, play), social (meeting friends, picnics, festivities), active (running, ball games, skateboarding, qi gong), intrinsic (nature experience, mental recreation, sunbathing) and non-use (passing through, not using). Some uses can also be of several types, including walking and recreational running, and the possibilities for different activities depend strongly on local affordances.

In some of the multiple and changing uses of UOSs, users might disturb each other. Governance and management activities must, therefore, address or avoid conflicts in use (de Magalhães & Carmona, 2009). A wish among many, often young, users to affect, explore and co-create the environment has challenged UOS management increasingly over recent decades and has sometimes led to conflicts. Expressions from graffiti and skateboarding to a variety of bottom-up so-called do-it yourself urbanism taking various forms, including urban knitting (yarn bombing) and guerrilla gardening, may have historical roots (Talen, 2015) but have changed and challenged the way people use, perceive and interact in UOSs. It is often possible for landscape professionals to learn from and support these initiatives (Fabian & Samson, 2015) – for example by encouraging stewardship by users over time – rather than quick actions that might counteract UOS management goals.

Besides the challenges associated with the co-existence of several uses, crowding through the mere presence of many people can be an issue. There is a need for sufficient space, as, for example, heavy wear and tear in the use of UOSs by schools and preschools that lack their own or sufficient outdoor environments can pose challenges for managers in dealing with conflicts and maintaining the quality for other users. By



providing variety in facilities, the management can support those users who desire low densities of people (Arnberger et al., 2010).

### *Walking and mental recreation*

A very common and multifaceted use is walking in, or just passing through or by, UOSs. Walking is facilitated in neighbourhoods with connected greenways, good accessibility to green spaces and public UOS facilities, such as gyms and gardens, a wide choice of paths and consideration of perceived personal safety and (traffic) security (Wang et al., 2016).

Walking in UOSs has lately been affected by GIS and mobile technology, with location-based games, most notably the highly used Pokémon GO (launched in 2016), encouraging various types of treasure

hunts in the physical environment. These games increase the overall use of UOSs, mainly public parks and places close to water, and enable engagement from landscape professionals (Potts et al., 2017). For example, it is important to provide variation and landmarks in order to make UOSs more interesting to explore with GIS technology.

Many users seek UOS, and particularly green areas, for intrinsic motives, such as mental recreation, often to reduce and recover from stress. UOSs can be managed for mental recreation in several ways, including more free-growing, nature-like environments (Hartig et al., 2003; Grahn & Stigsdotter, 2010). Restorativeness is mainly found in biodiversity and the dimensions refuge and nature (Grahn & Stigsdotter, 2010) or where grass, shrubs and trees form a varied nature-like environment, which is more often the case in large parks (Figure 5.4) but sometimes also provided in limited spaces (Nordh et al., 2009). Although



**Figure 5.4** Restorative environments with grass, trees and shrubs are more often provided in large parks than in smaller UOSs. *Photo: Anna Bengtsson*

moving in supportive environments is preferable, viewing trees, water or similar natural elements from a window can also reduce stress and blood pressure (Hartig et al., 2003).

### *Recreational running*

Active physical activities, such as recreational running, Nordic walking and power walking, are common in UOS. Recreational running is estimated to be the second largest recreational outdoor activity

in Sweden, after walking (Qviström, 2017). The increase in recreational running over time has affected UOS management in various ways (see Box 5.4). In some countries, it has had a major impact, with the development of outdoor fitness centres and trails with outdoor gyms and organisation of various sports activities related to running (Figure 5.5). Today, recreational running is a malleable and diversified practice occupying a wide range of places. The main challenge in UOS management is to accommodate all runners.



**Figure 5.5** The many forms of recreational running developed lately include fun runs, here for children in a suburban park in Alnarp, Sweden. *Photo: Märit Jansson*

## BOX 5.4: DEVELOPMENT OF RECREATIONAL RUNNING IN SWEDEN

Societal changes can lead to new activities in UOS, affecting management, as shown in the example of recreational running. Before the general understanding of the importance of recreational exercise for all ages triggered by the dramatic increase in lifestyle diseases in the 1950s and 1960s (Latham, 2015; Qviström, 2017), it would have been deemed out of place and physically harmful for a middle-aged woman to jog. From its early experimental phase, recreational running developed into a large movement in the 1960s and 1970s. Sweden became a forerunner in providing for recreational running, with ideas of exercise related to outdoor recreation rather than to sport (Qviström, 2016). There were at least 5,000 fitness trails for running by 1987, of which almost 2,000 were illuminated (Qviström, 2017) (see Figure 5.6). From the late 1970s onwards, the development of city marathons and fun runs has contributed to the popularity of the exercise. Large mass events can block entire city centres, sometimes combining elite sport activities with carnival-like activities (Edensor & Larsen, 2017). The ingredients of sport, everyday exercise, nature and commercial interest continue to mix and blend in new constellations, adding new forms rather than replacing old forms. More recent international trends include commuting by running, organised tourist runs, informal fun runs or ‘park runs’ (Stevinson et al., 2015) and bottom-up trends, such as the Swedish initiative ‘plogging’ – i.e. picking up litter while jogging.



**Figure 5.6** The popularity of recreational running is evident in urban and peri-urban locations, like in the many trails provided in Skrylle, an area for outdoor recreation outside the city of Lund, Sweden. *Photo: Mattias Qviström*

## Foraging

There is growing recognition of UOS functions for the extrinsic use of foraging (Shackleton et al., 2017). As a distinctive community of practice, foragers harvest diverse species of plants, mosses, lichens and other allied organisms, including associated materials (e.g. fruits, leaves, blossoms) for foods, medicines or raw materials for culturally or economically important items (e.g. jams, teas, baskets) (Poe et al., 2013; Hurley et al., 2015). Some foraged materials may represent an important contribution to a user's diet (Synk et al., 2017) or, in some cities, culturally appropriate wild foods and medicines for indigenous peoples (Poe et al., 2013). Foraging also supports personal connections to nature (Poe et al., 2014) and stewardship of some species, habitats and areas (McLain et al., 2017).

Foraging poses a number of challenges for UOS governance and management. A variety of UOS types (Figure 5.7), ranging from parks to cemeteries, backyards and street trees, support the activities of foragers, but harvesting of plants may be illegal in some spaces (Shackleton et al., 2017). Likewise, the extent to which existing UOS development, such as species selection, enables or constrains foraging remains understudied. Analyses of foraging supply are still rather novel – for example the recent evaluation of New York City's street trees as potential resources for foragers (Hurley & Emery, 2018). Foraging is increasingly understood as a community of practice transcending social and economic distinctions. However, research suggests that foraging practices, including the species that support these and the conditions under which they are accessed in UOS may be culturally differentiated and characterised by unequal access and

involvement in the decision-making processes (Watson et al., 2018).

## Adapting to various user groups

Within specific user groups, with similar though not totally homogeneous uses, perceived qualities and accessibility of UOS may differ from those in other groups. For example, the importance of social, physical and management aspects of UOS may change with user age (Laatkainen et al., 2017). Some user groups can be of specific importance in user-oriented UOS management. This is highlighted by Target 11.7 in the UN Sustainable Development Goals, which emphasises the provision of universal access to safe, inclusive and accessible green and public spaces, in particular for women, children, the elderly and people with disabilities (United Nations, 2015).

### *Young children and their families*

Children of preschool and primary school age are among the most active users, both in terms of time spent and in the intensity of the use, but they need to be close to UOS. The use is in general different for children compared with adults, making it of specific relevance for UOS managers to take an interest in children's perspectives. Children tend to look for affordances for play and interaction in their environments. Specific facilities such as school grounds, playgrounds, skate parks and multi-sport facilities can facilitate outdoor play, but a mix with other UOSs provides richness and variety in affordances. When children of school age go about on their own, they may use, for example, playgrounds and grey



**Figure 5.7** Foraging can take place in various types of UOS. (i) Foraging in vegetation in an UOS in Philadelphia, Pennsylvania, US, and (ii) by a playground in Landskrona, Sweden. Photos: (i) Patrick Hurley, (ii) Elin Pritzel Sundevall

spaces, such as roads and sidewalks, but also appreciate ‘wild’ areas, such as abandoned lots or nature for the many affordances found there (Jansson et al., 2016). Jones (2000) describes the value of *otherable space* for children since UOS that is disordered, polymorphic (allows multifunction), variable and manipulable also has permeable boundaries through which children can move between various spaces. In such otherable space, children find meaningful uses and exploit environments without being hindered.

Nature in its large variation often has a richness in affordances exceeding that in fully designed spaces. Variation in UOSs in terms of management levels, qualities and content is, therefore, interesting to children (Jansson et al., 2016). Hills and ditches, multi-stemmed and other climbing-friendly trees, shrubs, rocks and other

hideouts, as well as anything that is loose or can be picked, manipulated or modified, such as mud and water, are popular elements for young children (Lerstrup, 2016) (Figure 5.8). In particular, mixing prefabricated play equipment with natural elements in large UOSs has been found to lead to versatile play (Mårtensson, 2013).

Children creating their own places (dens, bike trails, etc.) might be considered problematic from a management perspective, but it is often possible to find ways to support such initiatives. Children have an interest in construction and maintenance of UOS and sometimes also in the professionals performing these activities, which is a promising starting point for involving children in operational management activities (Jansson, 2015). Children’s constructive play can also be encouraged, for example, by leaving branches to allow den



**Figure 5.8** (i) and (ii): Manipulable and mouldable elements like water provide many affordances for children and can be made accessible for play in several types of UOS, whether formal or informal, programmed or unprogrammed. *Photos: Märit Jansson*

construction (see the example in Box 5.5 and Figure 5.9)

Managers often have to deal with different ideals and thoughts concerning environments for children, as adults may find children's play disturbing, messy or dangerous. Risk often becomes a major aspect of managing UOSs for children, affected by a focus on safety standards and adults' fears. These aspects must be balanced with play values and the importance of children having access to varied, challenging and inspiring UOSs where they can learn how to handle risks (Brussoni et al., 2015). Ditches, trees, rocks, climbing structures, loose elements and water are features that children can use to develop strength, risk awareness and self-regulation. UOS managers can

make UOSs accessible, enabling and interesting for children and provide knowledge and common sense in contacts with users and others.

Playgrounds are commonly provided in UOSs. Much visited playgrounds often have place-specific qualities, such as surrounding play-friendly and shading green areas, while play equipment that is perceived as new, challenging or unique generates much interest (Jansson, 2010). Adaptation to local needs and preferences is important in order to make playgrounds useful parts of a varied local landscape. In particular, fathers prefer challenging features for playing with their children and mothers prefer places to socialise (Refshauge et al., 2012). Among the aspects preferred by children on playgrounds

## BOX 5.5: THE 'FOREST OF DENS' IN BRUNNSHÖG, LUND, SWEDEN

One example of managing UOS for active construction and manipulation by children is 'kojskogen' (the forest of dens) in the area Brunnshög in Lund, Sweden. There, a forest of deciduous trees (mainly *Acer pseudoplatanus*) planted in the 1990s was converted into a place that actively invited children and others to play and build dens, supported by the local government. It was initiated in 2015 by the Swedish branch of Architecture Sans Frontières International, together with the local government and university students. The first constructions were made in willow by the artist Steen Madsen. By providing piles of willow branches, continuous construction was encouraged, both freely and as part of temporal educational activities.



**Figure 5.9** The entrance area to the 'forest of dens', Brunnshög, Lund, Sweden. *Photo: Björn Wiström*

are physical challenges (climbing high, moving fast), placemaking (finding or constructing dens) and manipulation (physically affecting, using loose parts), all supported by vegetation in or close to playgrounds (Jansson, 2015). UOS managers can learn from children's perspectives to provide richness in affordances in playgrounds (Jansson, 2015). In so-called adventure playgrounds, where children construct their own play spaces

supported by play workers, children's perspectives are often very well met (Figure 5.10).

### *Children in schools and preschools*

Outdoor areas at institutions such as schools and preschools can allow children everyday outdoor experiences and related benefits.



**Figure 5.10** An adventure playground in Chiba, Japan. The adventure playground movement started in the Nordic countries but has become particularly successful in Japan and provides inspiration globally. *Photo: Märit Jansson*

Many children spend little time outdoors in their free time compared with previous generations, increasing the importance of institutional areas, where approaches from both school staff and UOS managers can have large influence (Jansson et al., 2018a). Overall school ground quality can be assessed through Outdoor Environment Play Categories (OPEC) (Mårtensson, 2013), based on research findings on the need for space, shade and play possibilities. The OPEC describe three main qualities: large surface area (preferably above 6,000 square metres), varied and green content (at least half of the surface area covered by trees, shrubs or broken ground) and design (integration of areas that are open, vegetated and with play equipment) (Boldemann et al., 2011;

Söderström et al., 2013). Another overarching approach is the ‘seven Cs’ by Herrington & Lesmeister (2007): character, context, connectivity, change, chance, clarity and challenge.

School grounds can be improved through, for example, gardening or participatory greening projects. Participation by pupils in planning and design is important to develop spaces that suit children, while participation in UOS management – for example through education-based approaches – is positive for everyday appreciation of school grounds and their development (Jansson et al., 2018a). It is highly relevant to include school grounds in the curriculum and develop them through dialogue and active participation.



Schools and preschools also use UOS outside their own grounds, such as nearby playgrounds, parks or forests, where management may have a strong influence on the play value and learning possibilities. For preschools, proximity and safe routes are of the utmost importance for visits, often to green playgrounds (Jansson & Persson, 2010) or to gathering sites sheltered from traffic and with variety, abundance, changes over the year and possibilities to manipulate objects and materials. Forest preschools prefer glades or sites by forest edges, often with slopes and access to open water (Lerstrup & Møller, 2016).

## *Adolescents*

Adolescents are a marginalised and sometimes invisible user group, and there are difficulties in finding places that suit them and where their use is accepted (Bell et al., 2003). There are different views of adolescents as either abusive users or not, but they can use UOSs with sound relations to an understanding adult world, including UOS managers.

Adolescents often favour UOSs with social qualities for retreat, alone or in smaller groups, and for interaction, relating to others and being seen (Lieberg, 1995). Providing a number of such multifunctional settings, also allowing solitude, helps adolescents more easily find uses in UOSs. These can be organised settings, such as playgrounds if these allow sitting together (Owens, 2002) – for example, on multiple or large swings or unprogrammed structures that allow social interaction. Sport facilities, outdoor gyms and large slides can also attract adolescents, particularly in well-maintained and aesthetically pleasing settings (Mertens et al., 2019). Many also appreciate green spaces that

are informal or even ‘invisible’, including small clearings and wooded areas (Bell et al., 2003). Owens and McKinnon (2009) found that adolescents often prefer environments supporting recreation, restoration and socialising, with nature and vegetation being of varying, often large, importance.

In school grounds, the uses of adolescents tend to be neglected, and the spaces and their management are rarely well adapted to them, often leading to limited use and sedentary behaviour, in particular among girls, with negative effects on their health. By developing several multifunctional and not too programmed places on school grounds, adolescents can find affordances, allowing multifunction, such as socialising and ball games, in well-maintained green settings (Jansson et al., 2018b).

## *The elderly and people in need of care*

Many fragile users rarely go outdoors and if so mainly in good weather conditions (Bengtsson & Carlsson, 2013). UOS management can use strategically located windows to enhance indoor views of outdoor attractions, such as daylight, nature, plantings or places for activities and meetings. Sheltered indoor-outdoor spaces, such as winter gardens, balconies and patios, provide the possibility to connect with the outside environment (Chalfont & Rodiek, 2005), and strategic use of plants, for example, preferably developed in dialogue between users and managers, can screen and prevent access to private rooms from outside.

UOS management to suit fragile users also involves facilitating the use of parks or gardens, preferably in the immediate

surroundings of buildings and with connections to the wider neighbourhood (Bengtsson, 2015). Bengtsson and Grahn (2014) point out two overall important aspects to consider when developing and managing UOS to support fragile users – namely, managing to make people comfortable in the outdoors and supporting access to nature and surrounding life (Figure 5.11).

Providing qualities that allow people to be comfortable outdoors requires UOS managers to consider perceived safety, recognition, variation and enclosure and to listen to users concerning their comfort in the entire UOS. Perceived safety can be achieved when users feel safely enclosed but not confined, avoiding physical or psychological unpleasantness, such as risks of falling, sliding or being exposed to disturbing features or extreme content and shapes that might cause stressful

reactions. The management can strive for UOSs to appear as united and natural parts of settings, with familiar features and plants that are functional year-round and support recognition, interpretation and orientation, avoiding too many impressions, with variation and options in terms of sun, shade and protection from wind and rain.

Qualities that support access to nature and surrounding life can be achieved through a *gradient of challenge*, from passive impressions in calm and secluded areas to interaction with people and natural elements in active areas. Environmental qualities can support contact with the surrounding life (views of events involving people, traffic, pets, etc.), social interaction (accessible and attractive seating for various group sizes) and impressions of human culture (e.g. elements stimulating memory). UOS management can support the



**Figure 5.11** Example of how a comfortable UOS for elderly people can be safely enclosed but not confined. *Photo:* Anna Bengtsson

possibility to experience nature's various expressions with all senses and access to secluded, peaceful UOSs enclosed by greenery and preferably including water features. In relation to the continuum of the gradient of challenge, it is important for UOS management to consider users' choices on whether to confront qualities perceived as challenging or avoiding overstimulation (Bengtsson & Carlsson, 2013).

### *People with disabilities*

Disabled people can have physical disabilities, including sensorial disabilities (such as vision and hearing) and/or mental disabilities (such as anxiety and stress-related disorders). These people may have very different needs but often encounter the common problem of being excluded from social life in, for example, UOSs (Seeland & Nicolè, 2006; Baris & Uslu, 2009).

As a basis for inclusion, the UN Convention on the Rights of Persons with Disabilities emphasises access in a broad sense and requires state parties to 'ensure to persons with disabilities access, on an equal basis with others, to the physical environment' (United Nations, 2006). Processes forming and developing UOSs, including management, can consider and involve all users rather than making additions to existing UOSs that might even increase stigmatisation (Seeland & Nicolè, 2006). One way of considering people with disabilities in a larger context is through the concept of universal design, which aims to provide environments that function for everyone. The seven principles of universal design are equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort and size and space for approach and use (Story, 2001). Universal design can be employed in

many contexts, including in UOS governance and management.

People with physical disabilities face many obstacles in UOSs, limiting their independence and inclusion, but UOSs with appropriate qualities can promote their use (Botticello et al., 2014). There are a number of physical obstacles to consider, mainly in relation to people with physical disabilities. Kerb ramps can be too few, in bad condition, too steep, slippery or even blocked. Stairs need handrails or complementary elevators or ramps. The presence and width of sidewalks are important, as are placement and availability of street crossings. Nearby parking spaces specifically for the disabled may be needed. Walking paths should be clear, level and wide enough to pass and meet others (with wheelchairs). Providing the possibility to rest, especially on sloping ground, is important, preferably with shelter from the rain (Baris & Uslu, 2009; Rosenberg et al., 2013). Presence of light and pleasing aesthetics in local environments can encourage going outdoors. Providing more greenery, secluded areas and community gardens can promote social interaction, beautiful views and a variety of things to look at, including animals, children playing, water and artworks, which are appreciated among midlife and older adults with mobility-related disabilities (Rosenberg et al., 2013).

Many people with mental disabilities spend their daily life at home, with restricted experience of leisure pursuits. Visiting public UOSs requires much energy and preparation for this group and for those caring for them (Mathers, 2008). For example, people with learning disabilities prefer environments that are easily understood (Mathers, 2008). Having staff at sites, simple maps, obvious routes, smooth footpaths, cleanliness and flexible seating are adaptations that can encourage visits, as can ready

information about toilets, places to sit and other facilities (Mathers, 2008).

### *Ethnic minorities and immigrants*

Uses and preferences for UOSs generally have many similarities across cultural and ethnic backgrounds. Good UOS management can offer affordances for social interaction and integration, which Ordóñez-Barona (2017) identified as one of the most important values for immigrants. Several studies have pointed out that high maintenance levels make UOS function well for a multicultural user clientele and support social benefits such as integration (Gobster, 2002; Kazmierczak, 2013). This could be due to many immigrants and ethnic minorities being socio-economically marginalised and having limited access to high-quality and functional outdoor environments (Ordóñez-Barona, 2017). However, some studies show that while immigrants (Jay & Schraml, 2014) and people with various ethnic backgrounds (Byrne, 2012) enjoy natural settings, they may rarely visit these because they feel unwelcome when users are predominantly non-immigrants (Byrne, 2012).

Social interaction and a sense of connection with UOSs can lead to multicultural, inclusive environments. Feelings of connectedness can be achieved by familiar plants, landscapes or activities that link homelands to the new country (Rishbeth & Finney, 2006). Other inclusive adaptations are to provide diversity of engaging activities, such as local festivals, sports or beautiful flowers (Rishbeth & Finney, 2006), functional infrastructures that allow passive social activities in large groups (Ordóñez-Barona, 2017), accessibility through openness and free access

with easy wayfinding (Rishbeth & Finney, 2006; Byrne, 2012). Providing information about parks and their use to newly arrived immigrants – for example, through employing park personnel – is also valuable (Rishbeth & Finney, 2006).

### Developing the role of managers for user-oriented approaches

User-oriented governance and management of UOSs require professional training for UOS managers in various positions (Fors et al., 2018). The role of managers involves facilitating services for a large variation of uses and users. Adaptation to, and communication with, multiple user groups can be a way of making UOSs useful, relevant and inclusive for more people. Participatory approaches are important, but UOS managers and their competences are also needed to balance the influence of various users and ensure that the least powerful groups, such as children, young people, the elderly, the disabled and immigrants, are given access and influence. In this respect, the role of the manager is to communicate, negotiate and explain management approaches leading to diverse qualities and functions, including, for example, cultural history and biodiversity. Managers also have an important role in finding ways to allow active involvement – for example foraging, den play, urban gardening and participation – with awareness of the ever-changing uses and user perspectives, encouraging (long-term) stewardship among users. There is a particular need to be aware of views and demands that tend to diminish the quality of UOSs or limit the value and use of UOSs for others, particularly for more vulnerable groups.

Since governance and management actions have large impacts on the content and

quality of UOSs and on people's relations to these spaces, they greatly affect the associated benefits for people. The individuality of users underlines the importance of working strategically and being user-oriented, providing for a multitude of present and future users and uses. There is a need for flexibility in UOS governance and management, as uses change over time. Beyond the physical results of UOS governance and management, activities, presence and contact with users by individual UOS managers might be beneficial to users. The role of the manager of UOS uses and users is thereby truly multifaceted.

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