

132 Role of urban nature in Copenhagen during the global pandemic – taking urban cemeteries as an example

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Introduction

From March 11 and during the spring of 2020, the whole Denmark received a number of restrictions and recommendations modified outdoor behaviors because of the Covid-19 pandemic, which have had a great influence on the everyday life of Danes. A large number of the employees were asked to work from home while students were sent home to have home schooling. It was recommended to "keep distance" and avoid unnecessary "social contact" in the whole country, including outdoor areas. Common leisure institutes such as sports clubs and gyms were closed, and cultural activities such as concerts and cinema became inaccessible. Urban nature areas were open and accessible, and quickly became important places for citizens to get fresh air, hence take on a new meaning for everyday life, e.g. as alternative meeting places with good opportunities to keep distance or as a ground for exercise activities.

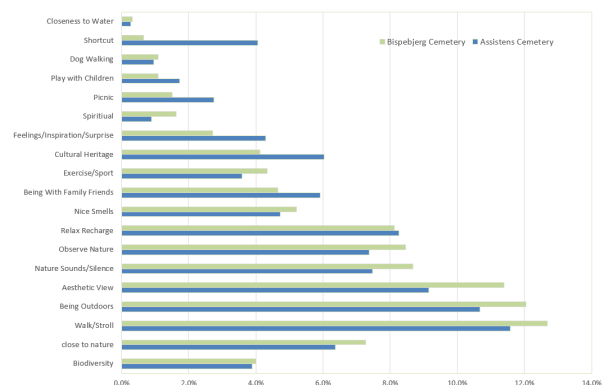
In general, the Covid-19 pandemic highlights the importance of urban nature as outdoor recreational spaces. Urban nature includes different types of green spaces, such as lawns, community gardens, parks, urban forests and urban cemeteries. The role of urban cemeteries as outdoor places is in focus in this study. Cemeteries act as active burial grounds in the city, but also as highly vegetated urban nature that potentially provides a diversity of outdoor experiences (Nordh et al., 2017). Previous research shows cemeteries hold the potential to provide recreational opportunities, and thus invite frequent use in the dense urban context (Quinton and Duinker, 2019; Swensen et al., 2016). Researching on urban cemeteries not only shed light on knowledge formation in terms of provision of ecosystem services, specifically recreation and mental restoration (Quinton and Duinker, 2019), but also help understand the role of this special type of green spaces in the urban fabric. Hence, this study aims to understand (1) who are using cemeteries and what experiential value(s) are highly valued during

the pandemic (2) how important are urban cemeteries to local people and (3) what are the challenges for sustainable management of urban cemeteries as multifunctional green spaces.

Material and methods

PPGIS survey

PPGIS survey was conducted in the platform of Maptionnaire. The PPGIS survey provided questions about gender, year of birth, the number of people in household, the number of children, the level of education and working status. Participants were asked to map their home and places they spent time outdoors including side questions about experiences, social interaction and recreational activities. Respondents could choose among 19 options, which were Biodiversity, Close to nature, Walk, Being Outdoors, Aesthetic View, Nature Sounds/Silence, Observe Nature, Relax Recharge, Nice Smells, Being With Family/Friends, Exercise/Sport, Cultural Heritage, Feelings/Inspiration/Surprise, Spiritual values, Picnic, Play with Children, Dog Walking, Shortcut and Closeness to Water. Further, the survey provided the opportunities for people to give improvement suggestions. In this study, all the mapped visited places were distinguished within three categories: only visit during covid-19 times, visit usually in my everyday life, and both.



Study area and data collection

The case study area is Copenhagen municipality. The PPGIS survey was handed out to citizen panels of five out of ten local districts in Copenhagen from spring 2020, during the lock-down. The local panels consisted of volunteered recruited adults, operated by the local districts. Combined, almost 20,000 citizens were part of the five panels. We received replies from almost 5,000, which corresponds to almost 2% of the total population in the five districts. We obtained the whole dataset with 4947 home addresses, 8819 visited places as well as 39235 mapped experiential values. There are five urban cemeteries operated by Copenhagen municipality.

Results

1125 visited places and 7101 experiential values are within these five urban cemeteries. In this study, Assistens cemetery and Bispebjerg cemetery are the top two most visited cemeteries, which is located in Nørrebro and Bispebjerg district in Copenhagen. The most highlighted experiential values in these two cemeteries are aesthetic views, being outdoors and taking a walk – each accounts for about 10% among all the experiential values (fig 1). Cemeteries also provide the opportunities for other outdoor activities, such as exercise and sports. Due to the fact that cemeteries are highly vegetated, other experiential values such as nature sounds, nice smells are also appreciated by people. Most importantly, people also mapped the mental

restoration values in urban cemeteries as a place for deep feelings, inspiration and surprise.

We found, urban cemeteries were highly used by locals, especially people living in the same district.

People traveled a shorter distance to the cemetery in the local district compared to people from other districts visiting the same cemetery. In terms of Covid-19 behaviors, visited places in cemeteries were marked by new users during the pandemic, however, more participants expressed that they only used the cemeteries before Covid-19, due to crowding concerns. For the vast majority, the cemeteries were used both before and during the pandemic.

The urban cemeteries face sustainable management challenges, as people highlighted the importance of infrastructures and expressed concerns about user conflicts and crowding during their visit during lockdown. In general, the magnitude and diversity of experiential values, social interaction and recreational activities expressed by visitors in cemeteries highlighted the importance of cemeteries as recreational green spaces of city context. This requires management attention, since cemeteries should not only be managed with a sole focus on traditional burial grounds with spiritual and tranquility experiences, but a diversity of experiential values, satisfaction of different user groups and physical quality.

References

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