ENABLE

Green refuges for enabling cities' preparedness for future pandemics and global change

Introduction

Urban parks and green open spaces provide opportunities for urban citizens to enjoy and connect with nature, improving health and wellbeing. The coronavirus pandemic led to lockdowns and social distancing in many countries worldwide, which for a time included restrictions on movement, closure of amenities and the prevention of most physical activities (e.g. team sports, gym use). Google Community Mobility data shows that movement declined in almost all places outside the home during the spring 2020 in the cities studied in the ENABLE project (Barcelona, Halle, Lodz, New York, Oslo and Stockholm). However, changes in the use of public parks were more variable between the cities[1] . Some countries, such as Spain, closed urban parks and restricted outdoor exercise to dog walking. In Sweden, fewer restrictions were in place, and therefore the use of parks in Stockholm increased during the pandemic. The patterns of mobility in neighbourhoods and parks also changed during the lockdowns. Overall, individual mobility increased in some countries after 3 to 4 weeks of lockdown.

Being able to access parks, lawns and other public urban green and blue infrastructure is important for physical and mental health. These places provide cleaner and cooler air, as well as space for physical exercise, recreation, relaxation, psychological restoration and social interactions[2]. The COVID-19 pandemic has particularly highlighted their importance for urban residents' physical and mental health and wellbeing. However, the pandemic has also raised questions about equitable access to green spaces in cities, particularly for the population groups most at risk. This factsheet discusses the role of urban green spaces as "green refuges" in a time of crisis, emphasising their role alongside other ecosystem services in enhancing urban resilience to future pandemics and other global changes, such as climate change and biodiversity loss. It highlights responses to the pandemic that enable greater access to green refuges and suggests considerations for future policy and planning. The expert opinions discussed in this factsheet provide a snapshot of the issues as they arose during spring and summer 2020.

1 Barton et al. 2020

2 Hartig et al., 2014; World Health Organisation Europe, 2016; Andersson et al., 2019; Ignatieva et al., 2020

Justice and equity in benefits of urban green and blue infrastructure during a pandemic

The COVID-19 pandemic has highlighted many social inequities within urban populations, in terms of who is more likely to contract the virus, whose health is most at risk, and who has access to the resources that make living with lockdown possible financially, physically and mentally. In particular, urban residents may not have equitable access to the benefits of urban green and blue infrastructure, which became particularly important when people were otherwise confined to their homes and other opportunities for exercising and relaxing were unavailable. In some cities, minorities and the elderly have been most exposed and most at risk of the coronavirus, which has been compounded by a lack of access to sufficient open green space that helps to mitigate stress while respecting social distancing.

Benefits from available, accessible and attractive green and blue infrastructure are not available to all urban residents due to, for example, having no green space nearby and conflicting interests in how it is used. This unequal distribution of green space in cities may be the result of a history of limited access for some communities and groups to participate in decision-making around urban planning and design. This means that not all values, needs, abilities and preferences for green spaces are taken into account and social inequalities influence which are recognised[3].

3 Andersson et al., 2019; Langemeyer and Connolly, 2020

Playground closed until further notice due to COVID 19.
Carola68 Die Welt ist bunt/Pixabay

Social distancing circles in Dolores Park, San Francisco.
Source: Dicklyon, CC BY-SA 4.0.

The physical availability of green and blue infrastructure was of particular concern during the pandemic. During lockdowns, the distances that could be travelled were restricted and public transport was reduced, meaning that people could only access green spaces if it was close to home. Their amenities and features also became important. For example, in Oslo, inhabitants sought out the greenest public spaces with most tree coverage to tackle COVID-19 mobility restrictions[4].

In some places, the mobility restrictions and the increased need to access green space led to overcrowding in some green areas. In response, new types of green spaces were used, including by groups of people who had previously been excluded from them. For example, families used brownfield spaces that they may have stayed away from before the pandemic. Policy and planning also adapted quickly, with new cycle lanes opened on busy streets in many cities, allowing people to socially distance, exercise safely and travel without using public transport. Some places also experimented with using timeslots to manage the number of people in green spaces at any one time, to avoid overcrowding and maintain distancing. For example, in Spain specific age groups were allowed outside during different time periods, with the elderly given times periods when other adults and children were not allowed out.

As potential future pandemics coincide with other types of global change, such as climate change, cities are likely to experience particular impacts due to their large dense populations. Green spaces can serve as refuges for urban populations, for example by helping relieve mental stress from lockdowns. The benefits green spaces provide also mitigate some of these threats, by, for example, cooling air temperatures during heatwaves[5] and reducing local flood risk. City administrations should proactively plan for such coinciding threats and should ensure people can access the benefits of green spaces equally. This should involve more local high-quality green spaces close to where people live, allowing recreation and exercise when people cannot travel and are short of time. Green space policy and social policy should be better integrated, and should recognise the need for fairness.

4 Venter et al., 2020a
5 Venter et al., 2020b

Learning from experiences in ENABLE cities during the pandemic

The ENABLE cities vary considerably in their green space provision. As is the case across Europe, the southern cities, such as Barcelona, have relatively low amounts of green space per person, while northern cities, such as Stockholm and Oslo, have much higher availability per person. The strictness of the lockdown also varied, with stricter restrictions in Barcelona and New York, moderately strict in Halle and Oslo, and the least strict in Stockholm. The inability to access green space in Barcelona, for example, may reflect an under-appreciation of the benefits of nature for health and wellbeing amongst decision makers. Comparing the experiences in these cities during the COVID-19 pandemic raises several important points for understanding justice and equity in benefits of green and blue infrastructure more generally.

As lockdowns have restricted both movement and activities, the importance of a wide range of urban spaces for exercising and accessing mental health benefits has emerged, including rooftops, urban forests, brownfields, pedestrian and cycling lanes on streets, water environments and vegetable gardens. For example, Barcelona is a densely populated city and its lower income residents typically live in small apartments without much access to green space. In these circumstances, rooftops could become important locations for new green spaces. ENABLE researchers in New York City also suspected that the city's green roof programmes may become more important for green space access[6].

In several cities, a wider range of open spaces were used. In Halle, brownfield sites provide a complementary set of benefits compared to formal green spaces, and are typically used for dog walking and informal gatherings[7]. During the lockdown, these sites were increasingly used for a wider range of activities, including jogging and family activities, potentially due to less oversight from the police. Considering these spaces as public green space that has not (yet) been built on would allow for their continued use during restrictive lockdowns[8]. Urban forests, either within or close to the city, are green refuges that allow residents to access a wider range of experiences, including stress relief while social distancing in a wilder nature than formal urban spaces[9]. For many people, the importance of leaving space for nature in cities became more obvious, as they enjoyed observing the wildlife and vegetation near home.

As cities emerge from lockdown, a more equitable distribution of and access to green and blue refuges in cities must be considered. There are opportunities to make use of temporary changes to urban infrastructure made during lockdown to expand provision. For example, in New York the emerging city-wide cycle network may offer a route to expand and link green spaces across the city.

Photo: summer kwak/Pixabay

6 Barton et al., 2020
7 Pueffel et al., 2018
8 Barton et al., 2020
9 Venter et al. 2020a

Conclusion

The COVID-19 pandemic and the resulting lockdowns and restrictions have highlighted the importance of equitable access to and benefits from urban green and blue infrastructure, particularly for exercise, recreation and relaxation. The increased recognition of these benefits has prompted city administrations to respond in creative ways to make green space more available for all. Opening up more types of open spaces, such as brownfield sites, expanding transport options, such as providing new cycle lanes, and using timeslots to allow social distancing have helped improve access to green spaces. Measures to manage the negative impacts of more time spent outside, including increased littering, may be needed, as well as consideration of how to maintain the benefits of green and blue spaces in the colder winter months. In the longer term, it is necessary to consider which social groups have access to such spaces, which are included in decision making, and whose values and needs are taken into account such that everyone can benefit.

In planning for the long term, planners should consider the nature qualities of urban open spaces as refuges to manage future pandemics and as solutions to mitigate other global challenges, particularly climate change. The pandemic has emphasised the need to be proactive in preparing for global change, using alternative institutional arrangements, transportation systems and other factors. With a greater awareness of the importance of nature for health and wellbeing, efforts to expand and improve green and blue infrastructure for urban resilience must be renewed. Learning local lessons from this crisis, both within an administration's own city and from other cities, is key for improving resilience to future pandemics and other global changes.

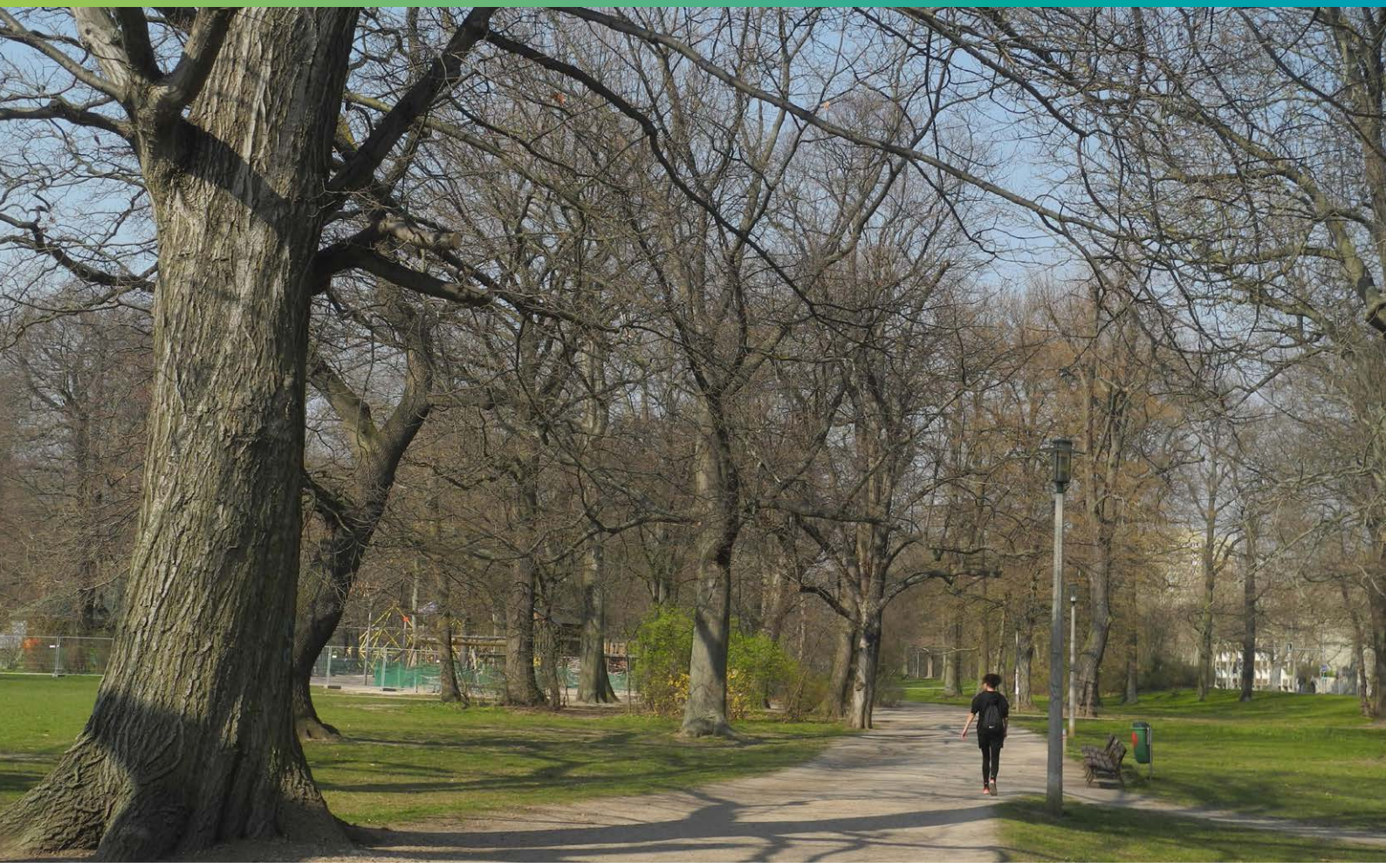

Photo: A German park during lockdown. Annegret Haase

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