# Research Proposal

## Carla Hyenne

## Contents

Abstract	2
Literature review	3
The benefits of urban blue spaces	3
The social and environmental consequences of blue urban renewal	3
The environmental justice principle	4
Geographical vs. perceived accessibility	5
Research question	6
Problem statement and research question	7
Research design	7
Methodology	7
Theoretical frameworks	8
Case study	9
Feasibility?	10
Conclusion	10

### Abstract

- A lot of studies on geographic accessibility/proximity
- However, accessibility is a multidimensional and complex concept which cannot be reduced to the spatial distribution of natural spaces.
- Particularly interesting with natural blue spaces is that they are fairly immobile. It is harder to move a river or lake, than it is to create a public green park. Given that users visits are determined most importantly by perceived accessibility compared to geographical distribution and proximity to the space, it is worthwhile to study people's perceptions and experiences of blue space visits

### Literature review

This section reviews the academic literature on blue spaces, and incorporates literature from wider concepts such as greening. It also introduces concepts that are central in understanding equity with regards to urban blue space, namely environmental justice and accessibility. These two concepts will be central to the research.

### The benefits of urban blue spaces

In an urban context, blue spaces have undeniable positive effects which Gascon et al. (2017) summarise as "stress reduction, increased physical activity, promotion of positive social contacts, increased place attachment and the reduction of extreme temperatures". The benefits fall under three categories. First, being exposed to water makes people feel better, happier, and be more active. There is an extensive repertoire of quantitative studies demonstrating these effects on people's health and well-being (Gascon et al. 2017, Britton et al. 2020). Qualitative studies also show that exposure to water improves mental health, regardless of how people interact with it (Garrett et al. 2019, van den Bogerd et al. 2021). Second, waterfronts give people the opportunity to connect with each other and with nature. Waterfront revitalisation projects can be an opportunity to create community bonds by engaging residents in the design and building process. For example, the "urban acupuncture" intervention conducted in a deprived area of Plymouth, UK, showed that participating residents reported a greater sense of well-being and life satisfaction due to feelings of community belonging and safety (van den Bogerd et al. 2021). Lastly, in the context of climate change, blue carbon ecosystems can naturally alleviate pollution, heat stress, flooding or drought, and increase the climate resiliency of cities (Lin et al. 2020, O'Donnell et al. 2021).

Given the potential of water, and that public space is a highly valued commodity in the city, revitalising blue spaces into usable, attractive environments is a great way to take advantage of unused areas.

#### The social and environmental consequences of blue urban renewal

Despite the undeniable benefits of water in the city, transforming waterfronts into highquality public space can have harmful consequences on people and the environment. Two mechanisms of action are exclusionary planning, and neoliberal urban renewal which can displace people by way of gentrification. These reinforce socio-spatial inequalities by discriminating against people on the basis of socio-economic and cultural differences, or by way of racist and sexist practices.

First, in stark contrast to the social bonds that can be fostered when residents are involved in revitalisation projects, when the local community's perceptions are not understood by planners, changes can disrupt human-to-human or human-to-water connections (Toomey et al. 2021). This is particularly susceptible to happen when a community's social practices do not fit with the social norms (Wessells 2014). Moreover, marginalised or stigmatised communities may find it hard or impossible to communicate their experience to the mainstream because they lack the words to articulate their reality. And vice-versa: wealthy, white, males may not be capable of understanding the experience of 'others' (Anguelovski, Brand, et al. 2020). To this end, Toomey et al. (2021) propose using language like "place-disruption" and "place-protection" to promote mutual understanding and avoid privileging the values of mainstream groups over those of marginalised communities.

Second, cities are prioritising economic growth over well-being and community. Local governments are exploiting nature-based solutions to brand their cities as green and liveable<sup>1</sup>, and to promote greening as a win-win strategy where "no one is left behind by the trickle-down of benefits from green infrastructure" (Anguelovski and Connolly 2021). Anguelovski et al. (2021 explain that with "glitzy green" renewal projects, cities try to attract a new creative class rather than addressing public blue space as a common good and prioritising the concerns of existing residents (Wessells 2014, Anguelovski, Brand, et al. 2020). These strategies perpetuate inequalities by privileging the values of white, environmentally privileged upper classes who can afford to live near nature, thereby pricing out residents who will be displaced to neighbourhoods with less attractive nature.

#### The environmental justice principle

To articulate the phenomenon whereby natural spaces provide social and environmental benefits but at the same time discriminate against vulnerable populations, scholars have used the concept of environmental justice. Environmental justice is based on the principle that everyone should have equal opportunities to access clean, healthy, unpolluted spaces, and in

<sup>&</sup>lt;sup>1</sup>For example, Madrid promoting the Madrid Río project on the official tourism website (EsMadrid 2022), or Oslo advertising its new urban waterfront promenade along which "you find yourself surrounded by some of Oslo's world-renowned architectural gems" (VisitOslo n.d.).

turn, share environmental burdens. As Agyeman et al. explain (2016), it started as a social movement in the US in the 1980s at a time when it became obvious that ethnic minority and low-income populations were disproportionately exposed to polluted and degraded land. Since then, environmental justice has concretised into an academic discourse and is typically broken down into three categories: distributional justice, procedural justice, and recognition justice.

When applied in the context of urban public blue and green space, distributional justice focuses on where these are situated in the city, and whether they address social, economic, racial or ethnic inequalities by striving to "avoid displacement and new negative green, ecological, climate and health effects" (Anguelovski, Brand, et al. 2020). Procedural justice deals with questions of discrimination in public participation and decision making. Finally, recognition justice addresses individual and community perceptions and preferences which may influence how people interact, or not, with the space.

### LINK environmental justice and accessibility

It follows that public space is where environmental (in)justice takes place. Thus, it is important to understand

#### Geographical vs. perceived accessibility

To date, studies that evaluate the degree to which people can make use of urban blue-green space have focused on measuring geographical accessibility, such as spatial distribution and proximity to people's homes. However, this ignores the fact that accessibility is a multidimensional concept which cannot be reduced to purely a physical dimension (Wang, Brown, and Liu 2015). Perceived access is also important to consider when studying social benefits of blue-green space. Are people happier and healthier because they live near nature, or because they can afford to? As Anguelovski et al. (2020) put forward, environmental justice must go further in understanding "how [...] people's experiences of place shape their perception of access".

To this end, Wang et al. (2015) suggest focusing on perceived accessibility, ie. "the quality, diversity, and size of the green spaces or socio-personal characteristics including age, income, safety, and cultural concerns". Comparing this approach to geographical accessibility, researchers studying two neighbourhoods with differing socio-economic status in Brisbane,

Australia, concluded that perceived accessibility was better suited to explain park-use than their proximity to home (Wang, Brown, Liu, and Mateo-Babiano 2015). This shows that in the context of environmental justice, recognition can be more influential than distributional justice in detecting unequal access to nature.

#### Research question

Although there is substantial evidence showing that perceived accessibility is significant in determining use of green space, there are limited studies that translate this idea to blue spaces. However, blue spaces are particularly interesting because natural water bodies like rivers or lakes are relatively immobile and cannot be planned in the same way as public parks. In this context, distributional justice as a measure of accessibility becomes less relevant compared to recognition when it comes to providing equal opportunities for people to access waterfronts. This makes it worthwhile to explore subjective experiences related to blue space,

My research will therefore focuse on perceived accessibility. This is important to study in order to uncover what immaterial hurdles are in the way of creating environmentally just cities when it comes to blue space.

Given the above, my research aims to answer the following question: to what extent do subjective experiences shape how (un)fairly accessible high quality, public blue spaces in the city are, and what does this mean for the environmental just city?

### Problem statement and research question

When blue spaces are well designed and distributed across the city, they offer many benefits for people and the environment. As such, making sure that a wide range of people from diversity of socio-economic backgrounds have equal access to public blue spaces helps to combat social inequalities.

Although there is no direct economic barrier to public space (there is not entrance fee), rarely are public blue spaces fairly accessible to everyone. There exists both physical and psychological barriers which can prevent individuals, or whole communities, from enjoying waterfronts.

Therefore, even if a blue space is freely open to the public, this does not mean that people use and benefit from them fairly. Understanding this phenomenon is important because public spaces are places of community, identity, attachment, and well-being, and ignoring experiences that differ from the mainstream increases social inequalities, discrimination, and displacement.

Given the above, my research aims to answer the following question: to what extent are high quality, public blue spaces in the city (un)fairly accessible, and for whom?

### Research design

To answer my research question, I will use the following sub-questions:

- 1. Who are the users of the space, how do they perceive it and how do they feel in it?
- 2. Why do they choose to use this space?
- 3. How diverse are the users...
- 4. How

### Methodology

Data on perceived accessibility is a subjective measure, based on qualitative data. It cannot be quantified in the same way as physical proximity

My research will be explanatory, because I aim to explain why the phenomenon of unequal access to blue space takes place (or not) based on principles of recognition justice. I will take an inductive approach, whereby my theory will emerge from data I will collect on people's experiences, perceptions and preferences of a blue space. This data is both subjective and spatial. My approach to collecting the data will be to visit the blue space(s) and interview users, for which I will need a set of interview questions as well as a way to record spatial data like their home, or the blue/green spaces they frequent. These requirements lend themselves well to public participatory GIS (PPGIS), a map-based survey method linking qualitative and GIS data. Using PPGIS to study people's relationship to green and blue space is recommended as research method which "might uncover local spatial knowledge and perceptions" (Anguelovski et al. 2020). It has been used to study people's interactions with and the distribution of blue spaces in Helsinki metropolitan area (Raymond et al. 2016), and also by BlueHealth to "uncover spatial aspects of people's relationships with blue spaces" (BlueHealth n.d.).

### Theoretical frameworks

Environmental justice Environmental justice (EJ) provides a lens through which to understand social and environmental inequalities related to blue spaces. By bringing together social and environmental concerns, the environmental justice paradigm advocates for the equal access to the benefits offered by natural spaces; and, in turn, sharing environmental burdens. EJ is traditionally broken down into three dimensions: distributional justice, procedural justice, and recognition justice (todo:cite schlosberg).

Distributional justice focuses on where blue spaces are situated in the city and whether they address social, economic, racial or ethnic inequalities by striving to "avoid displacement and new negative green, ecological, climate and health effects" (Anguelovski, Brand, et al. 2020).

Procedural justice deals with questions of discrimination in public participation and decision making situations, even if ideal participation doesn't prevent spaces from being captured by gentrifiers<sup>2</sup> (Anguelovski, Brand, et al. 2020).

Finally, recognition justice addresses individuals' and communities' perceptions, values and preferences which may influence how they interact, or not, with public space. This dimension is the most relevant to understand the subjective experiences of the users of the space.

<sup>&</sup>lt;sup>2</sup>urban community gardens

Recognising the experience of those who do not fit into the 'norm' also means acknowledging that some practices take place in the private and not public sphere, because of historical racial, sexist, ethnic discrimination. For example, women who disproportionally carry out domestic and care work have a different daily pattern which does not match that of the average 9-5 worker, and the spaces and mobility options should be adapted for them to reach blue spaces with ease. Or, they may feel more vulnerable and less safe in public, and prefer private spaces (Wessells 2014). How can blue spaces be inclusive of a diversity of people, carrying out a diversity of activities at all times of the day, week, or year?

### Accessibility

### Case study

What type of case study? what unit of analysis? Every blue space, neighbourhood and city will have a different set of social, political, economic, cultural, and environmental conditions which shape who uses the space, how they feel in it, and why they use it. In order to uncover these conditions, the unit of analysis should be scoped to a specific location on the water where people linger and have the opportunity to swim; this spot should have been rehabilitated by the city, and be public; and, it would be particularly interesting to study two rehabilitated blue spaces within one city, in order to compare the social consequences of investments in different neighbourhoods.

Specific context of Copenhagen Given these considerations, Copenhagen makes for an interesting case for the following four reasons. First, Copenhagen is located on the Kattegat strait and has 92 km of coastline (Comertler 2017), therefore water features prominently in the urban landscape. Second, due to the amount of shoreline in Copenhagen and the city trying to position itself as a world leader in sustainability, there have been many blue space rehabilitation projects since 2002. Today there are four harbour baths (Island Brygge, Fisketorvet, Sandkaj and Sluseholmen) and various urban beaches (Amager Strandpark, Svanemølle) (VisitCopenhagen n.d.). Third, Copenhagen today is experiencing an increase in poverty and ethnic segregation (Moller and Larsen 2015), as well as a growing racist discourse in the media and politics. For example, through the classification of some neighbourhoods as 'ghettos' (Simonsen 2008). This evolving socio-economic landscape and its surrounding discourse make it important to understand who feels included in blue spaces, and might not. Finally, Copenhagen's reputation as "the most liveable city" (VisitDenmark

2021), due in part to the swimming spots in the harbour, begs the question - for whom is the city liveable?

- Mention similarity to Hong Kong, and perhaps limitations of that study

### TODO:decide on specific blue spaces in Copenhagen

Ultimately, unequal access to blue space is an environmental injustice and this framework will lead my research. Environmental justice is a multi-faceted concept which brings together social and environmental concerns. Amongst other things, it advocates for the equitable access to environmental benefits. The dimension of justice that I will focus on is recognition. Recognition justice deals with people and groups' perceptions, values and preferences which may influence the ways in which they interact, or not, with a blue space (Anguelovski, Brand, et al. 2020).

### Feasibility?

### Conclusion

TODO

### References

- Agyeman, J., Schlosberg, D., Craven, L., & Matthews, C. (2016). Trends and directions in environmental justice: From inequity to everyday life, community, and just sustainabilities. *Annual Review of Environment and Resources*, 41, 321–340.
- Anguelovski, I., Brand, A. L., Connolly, J. J., Corbera, E., Kotsila, P., Steil, J., Garcia-Lamarca, M., Triguero-Mas, M., Cole, H., Baró, F. et al. (2020). Expanding the boundaries of justice in urban greening scholarship: Toward an emancipatory, antisubordination, intersectional, and relational approach. Annals of the American Association of Geographers, 110(6), 1743–1769.
- Anguelovski, I., & Connolly, J. J. (2021). The green city and social injustice: 21 tales from north america and europe. Routledge.

- Britton, E., Kindermann, G., Domegan, C., & Carlin, C. (2020). Blue care: A systematic review of blue space interventions for health and wellbeing. *Health Promotion International*, 35(1), 50–69.
- Comertler, S. (2017). Greens of the european green capitals. *IOP conference series: Materials science and engineering*, 245(5).
- del Pulgar, C. P. (2021). Dismantling the just city: The unevenness of green experiences in amsterdam noord. The Green City and Social Injustice: 21 Tales from North America and Europe.
- EsMadrid. (2022). Madrid río park. https://www.esmadrid.com/en/tourist-information/madrid-rio-park
- Garrett, J. K., White, M. P., Huang, J., Ng, S., Hui, Z., Leung, C., Tse, L. A., Fung, F., Elliott, L. R., Depledge, M. H. et al. (2019). Urban blue space and health and wellbeing in hong kong: Results from a survey of older adults. *Health & place*, 55, 100–110.
- Gascon, M., Zijlema, W., Vert, C., White, M. P., & Nieuwenhuijsen, M. J. (2017). Outdoor blue spaces, human health and well-being: A systematic review of quantitative studies. *International journal of hygiene and environmental health*, 220(8), 1207–1221.
- Kampa, E., Langaas, S., Anzaldua, G. et al. (2016). Rivers and lakes in european cities: Past and future challenges. *European Environment Agency*, 13.
- Kohsaka, R., & Uchiyama, Y. (2021). "urban agriculture, forestry and green-blue infrastructure as "re-discovered commons": Bridging urban-rural interface".
- Lin, Y., Wang, Z., Jim, C. Y., Li, J., Deng, J., & Liu, J. (2020). Water as an urban heat sink: Blue infrastructure alleviates urban heat island effect in mega-city agglomeration. Journal of Cleaner Production, 262, 121411.
- O'Donnell, E. C., Netusil, N. R., Chan, F. K., Dolman, N. J., & Gosling, S. N. (2021). International perceptions of urban blue-green infrastructure: A comparison across four cities. Water, 13(4), 544.
- Simonsen, K. (2008). Practice, narrative and the 'multicultural city' a copenhagen case. European Urban and Regional Studies, 15(2), 145–158.
- Toomey, A., Campbell, L., Johnson, M., Strehlau-Howay, L., Manzolillo, B., Thomas, C., Graham, T., & Palta, M. (2021). Place-making, place-disruption, and place protection of urban blue spaces: Perceptions of waterfront planning of a polluted urban waterbody. *Local Environment*, 26(8), 1008–1025.

- van den Bogerd, N., Elliott, L. R., White, M. P., Mishra, H. S., Bell, S., Porter, M., Sydenham, Z., Garrett, J. K., & Fleming, L. E. (2021). Urban blue space renovation and local resident and visitor well-being: A case study from plymouth, uk. *Landscape and Urban Planning*, 215, 104232.
- VisitCopenhagen. (n.d.). Copenhagen's harbour baths and beaches. https://www.visitcopenhagen. com/copenhagen/activities/baths-and-beaches
- VisitDenmark. (2021). Copenhagen is 'the most liveable city' 2021. https://www.visitdenmark. com/press/latest-news/copenhagen-most-liveable-city-2021
- VisitOslo. (n.d.). Oslo's new harbour promenade. https://www.visitoslo.com/en/articles/the-harbour-promenade/
- Wang, D., Brown, G., & Liu, Y. (2015). The physical and non-physical factors that influence perceived access to urban parks. *Landscape and urban planning*, 133, 53–66.
- Wang, D., Brown, G., Liu, Y., & Mateo-Babiano, I. (2015). A comparison of perceived and geographic access to predict urban park use. Cities, 42, 85–96.
- Wessells, A. T. (2014). Urban blue space and "the project of the century": Doing justice on the seattle waterfront and for local residents. *Buildings*, 4(4), 764–784.