Research Proposal

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Abstract

Literature review

Water is important for the city. It serves as a life source, a communication channel, a motor for industry and the economy, for recreation and exercise, for cultural and spiritual practices, and for community forming and belonging. As such, most large cities are located near water, either inland like rivers, lakes or harbours, or on the coast like salt water.

Through urbanisation, water in cities became polluted or transformed by industries (Kampa et al. 2016), disrupting the relationships people had with waterfronts and the surrounding environment. Waterfronts were unattractive, and the water unsafe to swim. Starting in the 20th century, post-industrial European cities started considering waterfronts as strategic opportunities to revitalise the city (del Pulgar 2021), and in the last few decades, the importance of water in the city has entered public consciousness due in part to climate concerns. Through local and international political pressure, public demand and (neoliberal) urban renewal, governments have invested significant resources in revitalising waterfronts into attractive natural places for people.

Making a body of water swimmable is a large public investment: the water itself has to be cleaned, which involves identifying and dealing with polluting sources; the waterbed and surrounding environments have to be rehabilitated to safely welcome people; and the waterfront has to be equipped with infrastructure for swimming, sitting, walking, and more. Since public space is a highly valued commodity in the city, reconverting blue spaces is a great way to take advantage of unused areas and proves to be valuable for a multitude of reasons.

The benefits of blue spaces

Climate adaptation In the context of climate change, blue spaces have a role to play in mitigating pollution, heat stress, XXX and XXX. Blue spaces are ecosystems that naturally alleviate climate change impacts, such as urban heat islands. They have a lower surface temperature than green spaces, evaporative effects and high heat capacity, and a spillover mechanism which extends the cooling effect up to 200 meters (Lin et al. 2020).

However, blue spaces are more complicated to design and maintain than green spaces, and as a result aren't as prevalent in urban planning as green space (**TODO:find ref in lin2020water**).

- act in both a similar and complementary way to green spaces//blue spaces can work in tandem with green spaces. for example: the morphology of blue spaces determines the extent to which they cool the surrounding area, and the larger and more compact a space, the greater the impact. thus, lakes/oceans/reservoirs have a greater impact, and rivers less impact; they need to be combined with green islands; the spillover effect is only 200m, after which green space is necessary to provide cooling effect in uhi (Lin et al. 2020)

Health and well-being Blue space has the ability to improve people's physical and psychological health. Being exposed to water makes people feel better, happier, and be more active (Gascon et al. 2017). There is an extensive repertoire of quantitative studies looking into the health and well-being effects of blue spaces, which can be summarised as "stress reduction, increased physical activity, promotion of positive social contacts, increased place attachment and the reduction of extreme temperatures" (Gascon et al. 2017). Qualitative studies have also shown that exposure to water improves mental health, regardless of whether people intentionally interact with the water, or just experience it from their apartment window (Garrett et al. 2019). In deprived neighbourhoods in particular, people tend to have poorer mental health and lower life satisfaction compared to wealthier areas (van den Bogerd et al. 2021). Projects that increase access to high quality blue spaces in socio-economically disadvantaged neighbourhoods have the potential to greatly influence the well-being of their residents.

Connection and community Waterfronts give people with the opportunity to connect with each other and with nature. People develop a sense of place attached to water. Even polluted or degraded waterfronts can play a central role in the community, providing refuge, connection, entertainment, and even food (Toomey et al. 2021). Furthermore, blue space revitalisation projects can be an opportunity to create community bonds by engaging residents in the design and building process. In the "urban acupuncture" intervention conducted by BlueHealth in a deprived area of Plymouth, UK, residents who participated in the project reported a greater sense of well-being and life satisfaction due to feelings of community belonging and safety (van den Bogerd et al. 2021).

Social and environmental repercussions of blue space revitalisation

Disrupting community Despite the undeniable benefits of urban blue spaces, interventions can have harmful consequences on people and the environment. In stark contrast to

the social bonds that can be fostered when residents are involved in revitalisation projects, when the local community's perceptions and values are not understood by planners, changes can disrupt human-to-human or human-to-water connections (Toomey et al. 2021). In perverse cases, cities prioritise growth over well-being and community. With "glitzy green" (Anguelovski and Connolly 2021) renewal projects like the Amsterdam Noord waterfront, cities try to attract a new creative class rather than addressing public blue spaces as a common good and prioritising the concerns of existing residents (Wessells 2014, Anguelovski, Brand, et al. 2020, del Pulgar 2021). Such projects privilege the values of new groups over that of existing residents, who risk displacement. Those who can afford to live near green or blue spaces will move in and price out the lower classes, who will be forced to move to neighbourhoods with worse access to attractive natural spaces. Paradoxically, quality waterfronts appear to reduce social and environmental inequalities but also cause gentrification.

Thus, how do we make sure that everyone in the city benefits equally from high quality blue spaces? The benefits are well known by governments, planning offices and academics; we see this through the promotion of waterfronts (eg. Madrid Río (EsMadrid 2022), or Oslo's urban waterfront promenade (VisitOslo n.d.) on the city's tourism website), as well as by the numerous qualitative and quantitative studies on health and well-being or climate adaptation. On the other hand, the social and environmental consequences of revitalisation projects are not systematically taken into account by planners. If cities are to reduce inequalities associated to access to natural spaces, the social and environmental consequences and trade-offs must be understood, and greening (or blueing) projects must be accompanied by "bold, progressive social policies" (Anguelovski and Connolly 2021).

Achieving equity and justice in urban blue spaces

Environmental justice Environmental justice provides a lens through which to understand these inequalities. 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. talk about sustainability not being only enviro but also eco and social The environmental justice paradigm 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. Nonetheless, even ideal participation doesn't prevent spaces from being captured by gentrifiers[1] (Anguelovski, Brand, et al. 2020).

Finally, recognition justice addresses individuals' and communities' perceptions, values and preferences which may influence the ways in which they interact, or not, with public space (Anguelovski, Brand, et al. 2020). 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: white, heteronormative societies may not be capable of understanding the experience of 'others'. This of course does not mean that minority communities do not attach meaning to place, but that two or more groups with distinct value systems need a common language to communicate. To this end, Toomey et al. 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 (Toomey et al. 2021).

Recognition 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. This is due to 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?

Problem statement and research question

Ideal- everyone can access blue spaces equally in the city, this is important because interacting with blue spaces is good for mental and physical health Real- physical and psychological barriers can restrict access to blue spaces () Consequence- , ultimately leading to envi-

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[1] urban community gardens

ronmental injustices (not everyone benefits fairly from blue/natural spaces), discrimination (racism, sexism...), displacement (green/blue gentrification)

Reviewed RQ: to what extent are the perceptions and values of Copenhagen's communities represented in the blue spaces?

Research design

- specific context of copenhagen, similar to hongkong

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