

Sustainable Design and Human Wellbeing

Dr / Lamiaa Adel Shaheen

Assistant professor, Interior Design Department at Oman College of Management and Technology, Muscat, Oman

Abstract

The quantity of study on how environmental design and sustainability might affect 's habits, wellness, and well-being is significant and growing. Professionals in sustainable building research have long recognized how challenging it is to communicate their findings in a manner that users will understand and use. Urban space is a topic that receives a lot of attention in this study (parks, plazas, and streets). This study examines how the research and its technique interpretations are used by landscape architects who have attained professional reputation for their designs of urban open space. The recommendations from this study, which might be made utilizing methods and data from the field of environmental design research, could be helpful to professionals to improve humans wellbeing. This study will assist students in performing, understanding, and applying their own direct evidence in their projects. Impacts of sustainable engineering research on suggestions and current situation.

Keywords: Urban open space, Environmental design research, Environment-behavior research, human behavior, Human health and well-being, design guidelines, Landscape architecture practice, design education and pedagogy, Research methods

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I. INTRODUCTION

One of the design trends with the fastest global growth is well-being. It has been argued that we can utilize design to foster wellbeing and human flourishing in light of the numerous reports and tools that have been made available by organizations like the International WELL Building Institute and the Global Wellness Institute. But is this actually the case, Can we really create lifestyles, organizations, and structures that bring out the best in people, It seems like a worthy goal. We must comprehend the fundamental characteristics of wellness and how can we improve humans wellbeing throw sustainable design and Urban space is a topic that receives a lot of attention in this Research (parks, plazas, and streets).

II. WHAT IS WELLBEING?

Wellbeing is a comprehensive trait includes both basic and complicated components. A person's, cognitive, behavioral, and moral wellness are typically included.

It is closely related to one's levels of pleasure, life satisfaction, and resilience as well as their social and natural milieu. Therefore, it is best to think of wellness as a sequence of interactions that is always changing rather than as a trait that is specific to an individual. It is the outcome of an ongoing collaboration between individuals and the environments in which they live and work.

Several of these alliances are social and mental, like society and experiencing pleasant emotions, while others are physical and ecological, such referring to wholesome food and being in nature.

The present and potential future events, as well as what happened yesterday, all have an impact on one's state of wellbeing. It is a dynamic trait that cannot be reduced to a list of things that make us feel good.

We prefer to compare the subjective quality of wellbeing to that of a successful party in order to describe it. Even with the perfect DJ, delicious food, and amazing dance floor, a successful party is not always guaranteed. The special "concert" that takes place in the "space" among individuals and locations rather than just the individual parts and pieces, is what distinguishes a good time. It's good to think of wellbeing as having four interconnected and fundamental aspects: physical, psychological, social, and ecological, in order to assess the quantitative character of wellbeing depending on people and place.



Figure -1 : Five fundamental aspects of Human wellbeing (Source The natural secrets of urban well being – Ian Lunt Ecology)

HOW ARE DIFERENT DESIGN APPROACHES LIKELY TO IMPACT WELLBEING OUTCOMES?

Any strategy for improving wellbeing must be highly effective in maximizing the capabilities of both people and places.

In this part, we contrast two fundamentally dissimilar design philosophies and consider whether they are appropriate for fostering wellbeing.

This contains;

- **Methods for Solving Problems**, such as sustainable Design Thinking, Fully Structured Projects, and Conventional Stage managed Development
- **Future Design Approaches**, Like Disruptive Design, Public Research laboratories, as well as Design for Research and practice.

CO-CREATING WELLBEING

We won't get very far if we see wellbeing as a problem that can be resolved by professionals with plans and checklists. The optimal conditions for human flourishing can only be achieved when we employ future-oriented methodologies capable of handling both straightforward and complicated problems. The physical, psychological, social, and ecological components of wellbeing are all intertwined in future making design processes, which are useful instruments for empowering people and places to go their own way.

HOW CAN SUSTAINABLE DESIGN AFFECT OUR HUMAN WELLBEING?

In order to improve design quality, sustainable design aims to lessen adverse effects on the environment, as well as the health and comfort of building inhabitants. Reduced use of non-renewable resources, reduced waste, and the creation of healthier, economic environments are the main goals of sustainability.

- **Getting in Touch with Our Body: Active Design**

According to studies, design can subtly improve an occupant's physical and emotional wellbeing. For instance, making an accessible active stairway (while making the elevator less accessible) can promote the usage of stairs rather than elevators. The stairs are frequently hidden in a back part of the structure, making them difficult to detect and unwelcoming. The building code, which states that the stairs must be sealed off and not exposed, can determine the position (for fire safety reasons). Encouragement to take the stairs, on the other hand, results in improved physical and mental health, By situating the stairs close to the building's entrance and in a place that is accessible to the public, using fire-rated glass and aesthetically pleasing finishes, designing the stairs to allow for travel in both ways, and generating the risers comfortable and safe, the stairs can draw attention away from the elevator. Those who exercise frequently usually do so because it makes them feel incredibly good. They

enjoy better sleep at night, feel more relaxed and optimistic about themselves and their life, and have more energy throughout the day. It's also a potent treatment for many typical mental health issues. Using our bodies to move from point A to point Z helps the environment by using less energy and leaving a smaller carbon imprint.

- **Communicating with Others: Social Environment**

As designers, we design environments that unite people. It might be difficult to establish a sense of community in traditional and dense dwelling designs. Studies have found that growing up in a city doubles a person's chance of psychosis and increases their risk of sadness and anxiety. The secret to fostering connectivity, fostering community, and emphasizing sustainability is a flexible amenity space. Among the features that emphasize fostering community are a shared dining room, a bike repair shop, a sky lounge on the roof, a garden area, and a co-working space. Young tenants frequently have a greater interest in local experiences than the contents of the rental unit. The COVID-19 epidemic has also brought to light the significance of interpersonal relationships for mental health. We can make these spaces more dynamic and interactive by designing them to be adjustable. Since the spaces are adaptable, there is less of an environmental impact when remodeling or demolishing is not necessary.

- **Case Study :**

Copenhagen's Superkilen Park serves as the center of the world's happiest nation. The World Happiness Report found Five important components that make up this happiness measure.

- 1) **A large Gdp growth,**
- 2) **A prolonged life expectancy,**
- 3) **A sense of social cooperation,**
- 4) **A dearth of political deceit, and**
- 5) **A hospitable environment.**

Superkilen is a substantial park that spans more than 1.5 kilometers along the northwest border of Copenhagen's Norrebro district. The Norrebro district in Copenhagen's Northern Region is culturally diverse. The park's objective is to assist the town's citizens with social challenges.

The open park's vibrant colors are intended to support the district's many cultures. The Superkilen Park is separated into three distinct portions, as seen in figure 2. (denmark.dk)

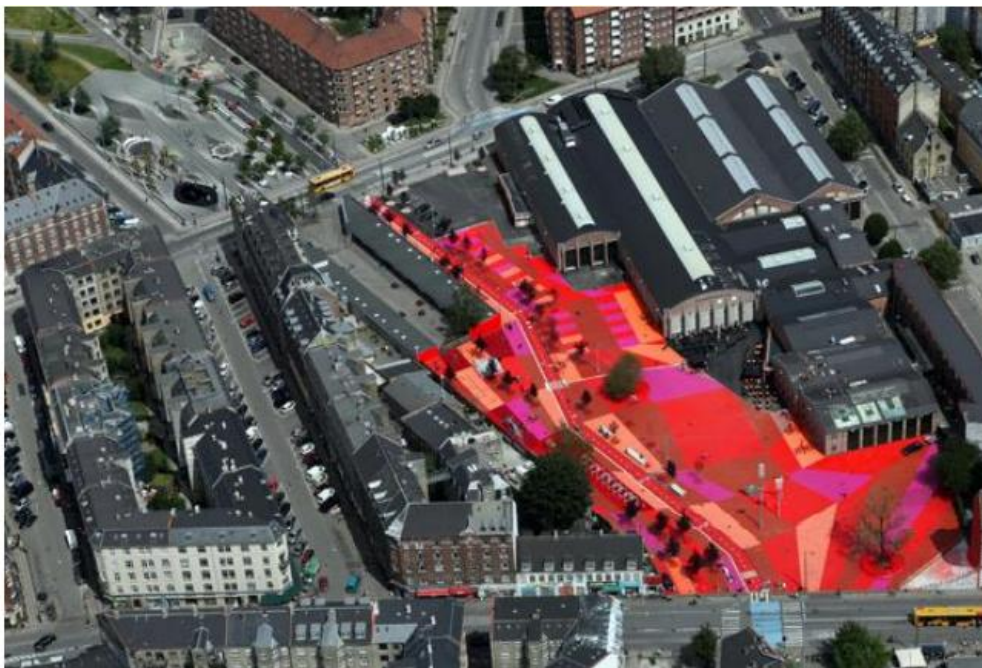


Figure 2 :Superkilen Park (Source: denmark.dk)

-Red Square: Sport, Culture and Market

The refurbishment and expansion of the Norrebrohall Public Arts and Athletic Hall takes place in Red Square. There was a range of static gym and sports equipment in the center of the red square. It is believed that the sporting events and cultural activities held in the park will encourage the neighborhood residents to

socialize. Figure 3's amusing representation of the plaza's layout shows how the area's activities and design are meant to spread joy while encouraging interaction with people. (visitcopenhagen.com)



Figure 3: Superkilen Park, Red Square (Source: visitcopenhagen.com)

-Black Square: MimersPlads Urban Living Room

Black Square serves as the hub of the Superkilen. Here, people congregate for socializing. People from all backgrounds and cultures were able to interact due to the wonderful design of the Mimers blades, which had a Moroccan fountain, a Turkish seat, and several Japanese cherry trees. Due to the constant presence of chess players, tables, grilling stations, and seats, people can congregate in a dynamic and engaging environment. Figure 4 illustrates how similar it is to a sizable city living room. (denmark.dk)

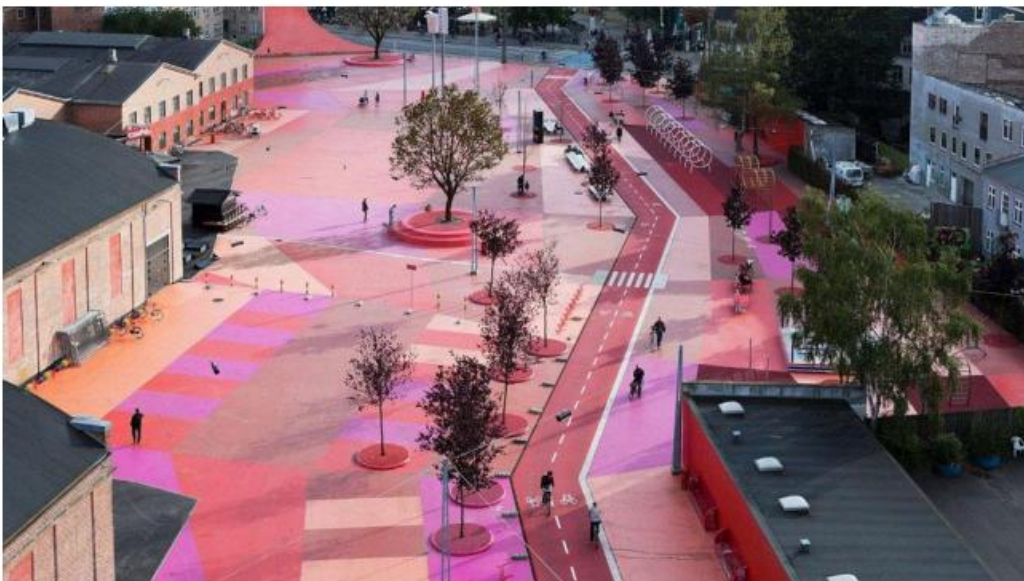


Figure 4: Superkilen Park, Black Square (Source: visitcopenhagen.com)

-Green Park for Play and Sport

The architecture of Green Park has fabricated undulating hills and outdoor areas that are appealing to all visitors, including kids and parents. The Green Park is a welcoming place for young families to assemble in order to lunch, rest, and take in the scenery while lounging on the expansive lawn. There are many family-friendly sports available here, including a badminton court. Figure 5 illustrates how the Superkilen's unique activities and culturally diverse design were used to eliminate identification awkwardness in the neighborhood in a lighthearted manner and to promote increased communication. (arcSPACE.com)



Figure 5: Superkilen Park, Green Park (Source: arcSPACE.com)

• **Views, open space, and biophilic design: Connecting to Nature**

Nature and humanity have always shared a unique affinity. The mood and well-being of building occupants can be enhanced by providing views that are connected to and visible from within nature. A direct line of sight to the outside and our natural surroundings can lower stress, elicit more positive emotions, and enhance focus. By strategically placing glazing throughout the structure, views can be obtained.

Our ties to the natural world can be strengthened through designs that make it easy to go from interior to outdoor areas. Through the use of biophilic design, this sense can also be strengthened.

• **Case Study :
Copenhagen Harbour Bath**

Copenhagen Harbour Bath is a project to change Copenhagen Harbor from a former industrial port to the city's social and cultural hub. The Harbor Bath was built as an extension of the harbor park over the water to meet the community's functional demands and provide for programming flexibility. Skip the usual Danish internal bath; The harbor bath offers a fresh take on the floating boat in the outdoors on hills, playgrounds, even harbors. As seen in figure 6, the notion of a terraced landscape was incorporated in the design to give citizens a fun bathing experience, allowing them to enjoy the city park and the outdoors without having to travel outside the city. (dac.dk)



Figure 6: Harbor Bath (Source: dac.dk)

Natural Beach Vs the Swimming Bath

Instead of having to travel far to the beach, the Harbor Bath offers opportunity for visitors to take in the clean, green environment right in the heart of Copenhagen. This offers a range of ways to enjoy city life. As indicated in figure 7, the citizen can take advantage of the nearby natural environment to engage in playful and interactive activities while enjoying the sun. (visitcopenhagen.com)



Figure 7: Harbor Bath, Natural Beach Vs Swimming bath (Source: visitcopenhagen.com)

Water Vs Land

The Blue Green Resolution, which stipulates either if you possess land, you should create a pool or if you have a pool, you must design the land, is going to be followed by a contented city.

As seen in figure 8, the designer in Copenhagen decided to extend the land to the water (harbor) so urban residents might experience outdoors. (visitcopenhagen.com)



Figure 8: Harbor Bath, Water Vs Land (Source: visitcopenhagen.com)

Safety and Capacity

Although entrance to the Harbour Bath is free, the lifeguards must be capable of controlling crowd size for security purposes. A swimming pool of a comparable size should fit up to 600 people using the water space that is accessible. It was only allowed inside the old port bath in half. As shown in figure 9, by expanding the land areas while keeping the water areas within the security restriction and letting users to unwind in the sun after engaging in water sports, we can boost the capacity to 600. (visitcopenhagen.com)



Figure 9: Harbor Bath, Safety and Capacity (Source: visitcopenhagen.com)

Landscape and Harbourscape

During the holidays, people like viewing unique natural settings. expansive beach or rocky shoreline with towering cliffs. During their vacation, people would seek out tough and thrilling activities. In order to fulfill the requirements of the urban citizen in their repetitive urban living routine, the harbor bath offers an exhilarating leisure environment, such as cliff jump, pier, and playgrounds, as depicted in figure 10. (visitcopenhagen.com)



Figure 10: Harbor Bath, Landscape and Habourscape (Source: visitcopenhagen.com)

III. CONCLUSION

The need of sustainable design with a tilt toward user societal environment has been highlighted in this research in order to better understand and design for users' wellbeing.

The basic objective is to provide frameworks, items, and environments that promote equality, variety, and inclusivity. Building this awareness is also required in order to transform user values, attitudes, and behavior into practical, powerful design concepts. In conclusion, sustainability and human-centered design should examine more factors than merely usability when considering a user's use of a particular good, service, system, or environment. These factors should include the user's cultural background and present societal situations.

REFERENCES

- [1]. Intergovernmental Panel on Climate Change: Climate Change 2013. The Physical Science
- [2]. Basis Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental
- [3]. Panel on Climate Change, Cambridge University Press (2013). http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf
- [4]. Gabrys, J.: Programming environments—environmentality and citizen sensing in the smart city. *Environ. Plann. D: Soc. Space* 32, 30–48 (2014)
- [5]. International Telecommunication Union (2016). *Smart Sustainable Cities: An Analysis of Definitions*. TU-T Focus Group on Smart Sustainable Cities.
- [6]. EMUDE (2006) Emerging user demands for sustainable solutions final report. In: 6th Framework Programme (priority 3-NMP), European Community
- [7]. Delos. “WELL Building Standard.” Accessed February 26, 2016. <http://delos.com/about/well-building-standard/>
- [8]. Chapman J (2005) Emotionally durable design. Objects, experiences, and empathy. Earthscan, London
- [9]. Chapman J (2009) Design for (emotional) durability. *Des Issues* 25(4):29–35
- [10]. Charter M, Tischner U (2001) *Sustainable solutions: developing products and services for the future*. Greenleaf Publishing, Sheffield, UK
- [11]. Ceschin F (2012) The introduction and scaling up of sustainable Product-Service Systems: a new role for strategic design for sustainability. Ph.D. thesis. Politecnico di Milano, Milan, Italy
- [12]. education, Cape Town, 19–23 October 2008 27. Crul M, Diehl JC (2006) Design for sustainability: a practical approach for developing economies. United Nations Environment Programme, Paris
- [13]. <https://www.visitcopenhagen.dk/>
- [14]. <https://dac.dk/>
- [15]. arcspace.com.
- [16]. <https://ianluntecology.com/2014/04/06/urban-biodiversity-human-well-beingurban-well-being/>

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