

The Journey to Becoming a Biophilic City

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Background and History of Biophilic Cities

UN-Habitat declared that in 2008 more than half of the world’s population lived in cities. This trend would grow at a rate such that by 2050, around 70% of the projected 9.2 billion global population will be living in urban areas. Biodiversity is crucial for human survival, hence, biodiversity conservation is paramount to the quality of life and environmental sustainability in cities. Other than pragmatic reasons for the conservation of biodiversity, there is a biological root to it, i.e., biophilia. Edward O. Wilson defines biophilia as “The innately emotional affiliation of human beings to other living organisms. Innate means hereditary and hence part of ultimate human nature”.¹

I first read Timothy Beatley’s book, “Biophilic Cities: Integrating Urban Design and Nature” in 2011 and was quite excited to find that Singapore fitted well with his description of biophilic cities and the indicators of a biophilic city were similar to those included in the Singapore Index on Cities’ Biodiversity,² also known as the City Biodiversity Index which was initiated in 2008. However, most of the cities featured in the book were from North America and Europe and Singapore’s greening efforts were not mentioned.

In early 2012, Peter Newman, Tim Beatley and Linda Blagg visited several sites in Singapore, searching for the innovative edge on how cities can be biophilic and be a habitat for humans, flora and fauna. Their explorations were captured in a YouTube video, titled, Singapore: Biophilic City.

It was obvious that cities have independently converged on becoming biophilic because it would make their living areas more liveable and sustainable. Professor Beatley officially launched the global Biophilic Cities Network in late 2013 that originally comprised eleven partner cities, including Singapore, Birmingham (United Kingdom), San Francisco (California), Portland (Oregon), Wellington (New Zealand), Montreal (Quebec, Canada), Milwaukee (Wisconsin), Vitoria-Gasteiz (Spain), Rio de Janeiro (Brazil), Phoenix (Arizona) and Oslo (Norway).

The role of biophilia in the sustainability of cities was promoted further in Singapore when the National Parks Board and the Centre of Liveable Cities, jointly organised a symposium on “Biophilia and Future of Sustainable Cities” on 14 October 2015. The late Professor Steven Kellert, Professor Tim Beatley and Professor Peter Newman gave keynote lectures on different aspects of biophilia, covering biophilic design to potential of the global movement of designing cities that love nature and biophilic urbanism as a regenerative, disruptive tool. Additionally, Mr Khew Sin Khoon, Professor Tay Keng Soon, Mr Lionel Ng and Dr Lena Chan shared the Singapore experience and perspective.

The United Nations identified a set of 17 “Global Goals”, more widely known as the Sustainable Development Goals (SDGs) to be achieved by 2030, of which Goal 11 is Sustainable Cities and Communities. For cities to realistically achieve SDG Goal 11, it would be useful that guidelines and best practices for sustainable cities are available. It is, indeed, timely that Beatley published a “Handbook of Biophilic City Planning and Design” in 2016 that intended to 1) provide a comprehensive guide on how to integrate nature into their planning and design processes, and 2) present inspirational case studies for future cities to model on.



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Lessons Learnt from Cities

The handbook is organised into 4 parts, i.e., 1) Background and theory of biophilic cities, 2) Creating biophilic cities: emerging global practice, 3) Global survey of innovative practice and projects, and 4) Success and future directions. Each chapter has a conclusions section that not only summarises the key points but also poses some thought-provoking questions. Part 1 provides a good introduction to the concept of biophilia and biophilic cities, especially for the uninitiated. The connection between the benefits of biodiversity, in particular forests and green spaces, in urban settings to the creation of sustainable and resilient cities is emphasised, clearly supported by citation of research carried out in different parts of the world. Using more comprehensive and holistic economic analyses, it has been shown that biophilic design and planning could result in substantial benefits and returns. It is often assumed that there is no native biodiversity in cities. This has been challenged as increasingly and more widely, it has been observed that nature can co-exist with humans in cities. In fact, there is greater diversity of flora and fauna in cities than in monoculture agricultural land. Chapter 2 will be an eye-opener to the complexities of the nature of biophilic cities. The different dimensions of biophilic cities are encapsulated in Box 2.4. To help individuals think about how much nature diet we need to remain healthy, a Nature Pyramid, modelled on the minimum fruit and vegetable servings we need per day, was conceptualised by Tanya Denckla-Cobb and further developed by Tim Beatley. Urban resilience is interpreted in a broad context, extending it to numerous connections including community resilience, physical aspects, emotional connections, health, urban poverty, etc. Biophilic cities, hence, must be resilient cities, as their objectives complement each other.

While the chapters of part 1 deals with the concept and theory of biophilic cities, the case studies of the eight cities featured in part 2, are sources of inspiration. The cities have adopted very different approaches and strategies. Beatley writes with authority, objectivity and familiarity from first-hand experience on Singapore, Milwaukee, Wellington, Birmingham, San Francisco and Oslo. While he showcases the laudable biophilic initiatives and features of each of these cities, he also draws attention to challenges that could be faced by the cities. In his summation of Singapore, Beatley opines that “Few coastal cities have done more to embrace nature than Singapore... Connecting land-based urbanites with their amazing nearby ocean environments and organisms remain for many reasons, a significant challenge, but Singapore is taking this on in a serious way that other coastal and marine cities should understand and follow.” From Singapore, Beatley then illustrates how Milwaukee reinvented itself from an industrial and beer city to a green city where the role of community-building efforts is highlighted. The marine conservation efforts of Wellington and the health, sustainability aspects of Birmingham as a natural and biophilic city, accommodating wildlife in San Francisco, and the joyful sounds of fjords and accessible forests in Oslo, are among many of the interesting experiences shared by Beatley. Julia Triman writes about the natural and landscaped water features of Portland while Carla Jones tells the story on how Vitoria-Gasteiz successfully planned for nature and encouraged links between the people and urban nature.




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Part 3 is a kit that provides a suite of tools, techniques, equipment, etc., to build a biophilic city. They range from broad strategic approaches, like action plans, urban park planning and bylaws to detailed suggestions like bird-friendly urban design, biophilic factories and business parks, community driven native species recovery projects, green roofs, green trails, wildlife corridors, blue urbanism, restoring and revitalising rivers, pocket parks, nature centres, etc. Some of the write-ups are on very specific projects, hence, readers interested in them can contact the organisations for further information. As it would not be possible to include many other exemplary practices and projects, other case studies can also be accessed from the Biophilic Cities Network website.

Introducing Part 4, Beatley stresses that the philic part of biophilic cities is as important as the bio which implied that biophilia has to be incorporated into the ethos of the community. This part leads on to evaluate the current situation based on lessons learnt so far from cities, lauding successes and suggesting future directions. The important contribution of strong collaborations and networking cannot be over-emphasised. In recognition of their roles in shaping the concept of biophilic cities, Beatley has identified 7 emerging pioneers, and their contributions covering diverse fields are highlighted as box stories. In conclusion, while Beatley acknowledges the challenges and obstacles that Planet Earth faces, he is also optimistic that cities globally can work together to make this a better biophilic world.

Conclusion

This handbook is the first of its kind for biophilic cities, an idea and practice that is gaining more converts. It seems to indicate that the awareness of the vital importance and benefits of nature is growing. However, there are very few case studies from cities in Asia, South America and Africa where the majority of the mega-diverse cities is located and where the rate of urbanisation is escalating at an unprecedented pace. Ironically, these are the very cities where the practice of biophilia is most urgently needed. For our survival and quality of life in an urban ecosystem, it is imperative that all cities should take steps, big or small, towards becoming biophilic. To assist on this journey, it is highly recommended that people, who live in and who are responsible for shaping emerging biophilic cities and cities aspiring to be biophilic, read and use this handbook as they will find many practical, diverse and tested ways that they can adopt and adapt to their situation at all levels. This is also a call to more cities to share their successful experiences so that the process of achieving a biophilic Planet Earth can be accelerated. 

References

- ¹ Wilson, Edward O. *Biophilia*. Cambridge, MA: Harvard University Press, 1984.
- ² Chan, Lena, Oliver Hillel, Thomas Elmquist, Peter Werner, Nancy Holman, Andrea Mader, and Elisa Calcaterra. *User's Manual on the Singapore Index on Cities' Biodiversity (also known as the City Biodiversity Index)*. Singapore: National Parks Board, 2014.
- ³ Timothy Beatley, *Biophilic Cities: Integrating Nature into Urban Design and Planning*, Washington DC: Island Press, 2011
- ⁴ Timothy Beatley, *Handbook of Biophilic City Planning & Design*, Washington DC: Island Press, 2016



The Windsor Nature Park is established on the margin of the Nature Reserve to act as a green buffer, as well as to connect land-based urbanites with their natural environments. Image by Tuckys Photography, commissioned by Landscape Engineering Pte Ltd