



# Ecological Embeddedness: Sustainable Greening of Cities in the Arab World

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«Cities in the Arab World»

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Jala Makhzoumi advocates community centered, context specific and ecologically sound approaches to development. She practices in the Middle East with projects that include sustainable urban greening, landscape heritage conservation and postwar recovery. Jala is adjunct professor, American University of Beirut and co-founder and president of the Lebanese Landscape Association. She is recipient of the 2019 European Council Landscape Architecture Schools (ECLAS): *Lifetime achievements award*.

## THE ENVIRONMENTAL CHALLENGE

The UN-HABITAT report<sup>1</sup> on the state of cities in Arab Countries relays the sense of urgency resulting from rapid urbanization, compounded by the expectation that by 2050 over two-thirds of the region's population will reside in cities. Persistent and emerging trends are not different from other cities in the global south, with similar direct impacts upon the quality of urban living, including increased poverty; social exclusion; wealth disparities; youth unemployment; gender inequality; and unequal access to land and property. Environmental deterioration is another outcome of such urbanization, with unsustainable patterns of water and energy consumption, waste (mis)management, traffic safety and congestion accounting for high levels of air pollution. Ultimately, environmental degradation impacts public health and the quality of life in cities.

What sets Arab Countries apart is the predominantly arid and semiarid regions with characteristically fragile ecologies in which the cities are located alongside scarce natural resources, resulting in most cities suffering an ecological debt. Compared to 1961, the average ecological footprint of the region has increased by 78 percent, from 1.2 to 2.1 global hectares per capita, in part because of a threefold increase in population size predominantly concentrated in cities and a related sharp rise in resources and services consumed per person due to higher incomes and changing lifestyle patterns<sup>2</sup>. Arab countries can no longer “seek growth for the sake of growth at any cost” but need to heed the ecological limitations of their environment and prioritize the health of their urban populations and environments<sup>3</sup>.

Addressing environmental concerns and planning sustainable futures is challenging because of endemic political instability, social unrest, and massive population displacement due to conflict, with some 2.5 million internally displaced people (IDP) – 9% of global total of IDP – residing in Arab countries. Another challenge is an ambiguity in practice regarding the conception of **environment**. Environmental concerns in some Arab countries (Egypt, Iraq, Jordan, Lebanon) are managed by ministries of environment, while in others ‘environment’ is aligned with planning (Algeria, Bahrain, Sudan) or with water and energy management (Morocco, UAE, and Yemen)<sup>4</sup>. Still another challenge is the institutional mindset of state agencies whereby decision-making is restricted by disciplinary boundaries and, as such, offer fragmentary approaches to tackling environmental challenges. This at a time when sustainable strategies dictate holistic, integrative approaches that bridge disciplinary boundaries. For example, management of water resources in Lebanon, specifically rivers, is split between three different state agencies often with contradictory agendas. The Ministry of Environment oversees legislative aspects for protecting natural resources, while the Ministry of Energy and Water is responsible for development projects, often in protected riparian landscapes. Funding is the role of a third agency, the Council for Development and Reconstruction, and social welfare of yet another.

Above all, ‘environment’ is considered as a problem requiring solutions, a view undermining the potential of environment (a) to contextualize development and render it meaningful and/

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1. UN-Habitat, *The State of Arab Cities 2020. Financing Sustainable Urbanization in the Arab World*. United Nations Publications, 2020. Available at: [https://www.arabstates.undp.org/content/rbas/en/home/library/Sustainable\\_development/the-state-of-arab-cities-2020.html](https://www.arabstates.undp.org/content/rbas/en/home/library/Sustainable_development/the-state-of-arab-cities-2020.html) (Accessed: 07 March 2021).

2. Najib SAAB (ed.), *Survival Options. Ecological Footprint of Arab Countries. Annual Report of the Arab Forum for Environment and Development*. Lebanon, AFED, 2012. Available at: <http://www.afedonline.org/en/reports> (Accessed: 07 March 2021).

3. *Ibid.*, p. 13.

4. Salpie, DJOUNDOURIAN, “Environmental movement in the Arab World” in: *Environmental Development and Sustainability*, Vol. 13, 2011, pp. 743-758.

or beneficial to ordinary citizens, and (b) to nurture a stewardship of nature, environment, and natural resources. This relates directly to the issue of 'governance', the mechanism through which peace and resilience can be realized in managing environmental resources sustainably and equitably. Achim Steiner argues that "good environmental governance, requires a holistic framework that integrates wellbeing, economic, social and environmental spheres within a multi-functional, multi-sectoral design within the goals of sustainable development"<sup>5</sup>.

## ECOLOGICAL EMBEDDEDNESS

Ecology is the science that explains the inner workings of nature through processes that flow across and connect natural, rural, and urban ecosystems/landscapes, the total of which make up the global human ecosystem. Unregulated growth, urban expansion and demographic shifts, overconsumption and the use of technologies combine to damage the environment and degrade the quality of life in cities especially. This is in great part the consequence of our ecological illiteracy that allows us to push our planetary ecosystem beyond its limits. Whiteman and Cooper<sup>6</sup> introduce the construct of "ecological embeddedness" through their ethnographic studies to counter the Western conception of a management that ignores the ecosystems we inhabit. The authors demonstrate that identification with the land, adherence to ecological reciprocity, respect and caretaking can contribute to sustainable management of natural resources in the age of the Anthropocene.

Since then, socio-ecological embeddedness has been used to plan for enduring food production systems<sup>7</sup> and sustainable, community-centered management of resources<sup>8</sup>, and to explore the relationship between environmental health and public health<sup>9</sup>. Over the last two centuries, Western culture has become significantly ecologically 'dis-embedded'<sup>10</sup>, reducing the environment to a reservoir of nature resources destined for human use. Ecological dis-embeddedness accounts for extreme environmental degradation – exemplified by global warming – while deteriorating the relationship between people and 'nature'.

## SUSTAINABLE URBAN GREENING

In its broadest sense, 'urban greening' implies environmentally sustainable and socially equitable management of city resources. The European Bank for Reconstruction and Development (EBRD) Green Cities program exemplifies this approach by proposing *green city action plans, sustainable infrastructure investment and capacity-building*<sup>11</sup>. Another example is the Resilient Cities Network,

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5. Achim STEINER, "Foreword" in: *GEO-6: Global Environmental Outlook: Regional Assessment for West Asia. Nairobi, United Nations Environment Programme* (UNEP), 2016. Available at: [https://catalogue.unccd.int/661\\_GEO\\_6\\_Global\\_Environment\\_Outlook\\_Regional\\_assessment\\_West\\_Asia.pdf](https://catalogue.unccd.int/661_GEO_6_Global_Environment_Outlook_Regional_assessment_West_Asia.pdf) (Accessed: 07 March 2021).

6. Gail WHITEMAN and William COOPER, "Ecological Embeddedness" in: *Academy of Management Journal* Vol. 43 Issue 6, 2000, pp. 1265-1282.

7. Russell HEDBERG and Karl ZIMMERER, "What's the market got to do with it? Social-ecological embeddedness and environmental practices in a local food system initiative" in: *Geoforum*, Vol. 110, 2020, pp. 35-45.

8. Subhabrata B. BANERJEE and Stephen LINSTED, "Masking subversion: Neocolonial embeddedness in anthropological accounts of indigenous management" in: *Human Relations*, Vol. 57, 2004, pp. 221-247.

9. Marina LEWIS and Mardie TOWSEND, "'Ecological embeddedness' and its public health implications: Findings from an exploratory study" in: *EcoHealth*, Vol.12, 2015, pp. 244-252.

10. *Ibid.*, p. 244.

11. EBRD, *About green cities, 2018*. Available at: <https://www.ebrdgreencities.com/about> (Accessed: 07 March 2021).

aiming to increase “the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt and grow no matter what kind of chronic stresses and acute shocks they experience”<sup>12</sup>.

The provision of publicly accessible green spaces in cities is one important dimension of sustainable urban greening. Whether natural landscapes or agricultural ones, woodlands, or waterbodies, maritime or riverine, green/open areas are a key contributor to public health and to quality urban living because they provide visual and spatial reprieve from the built fabric, and opportunities for passive and active recreation. In addition, urban green areas offer opportunities for people in cities to encounter ‘nature’, necessary for human wellbeing as made explicit by the World Health Organization<sup>13</sup>. Green areas, improve air quality, enhance the urban microclimate, and lower noise levels<sup>14</sup>.

The COVID-19 pandemic is one unforeseen global catastrophe that has transformed urban living and will continue to change the way we design our cities. Ecologically embedded urban greening has the potential to overcome the compartmentalized, disciplinary, and fragmentary approach to ‘environmental health’ prevalent in Arab world cities. Ecologically embedded urban greening concedes to the flow of resources across national boundaries and administrative limits to look beyond the urban environment to peripheries and hinterlands. Temporal continuities are also addressed to overcome historical and cultural discontinuities by colonial and post-colonial modern nation states, to enable a reclaiming of vernacular practices and re-evaluation of socially imbedded responses to environmental limitations<sup>15</sup>.

To conclude, ecologically embedded urban greening offers environmental, social, cultural and political benefits. Above all, it offers a manageable model to environmental sustainability. Planning for nature in cities through leisure and amenity contributes to wellbeing, mental and physical health for all citizens, not just the privileged. The contact with nature raises awareness of environmental problems and encourages stewardship. At the same time, reclaiming urban natural and cultural heritage reaffirms the sense of belonging and identity just as it reaffirms the character of a place/city<sup>16</sup>. Politically, the publicness of green areas serves as an arena for democracy, for the practice of citizenship in the face of growing neoliberal model of urban development in the region<sup>17</sup>.

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12. *Resilient Cities Network, Urban resilience, 2021*. Available at: <https://resilientcitiesnetwork.org/urban-resilience> (Accessed: 07 March 2021).

13. *Ecosystems and Human Well-Being: Health Synthesis. A Report of the Millennium Ecosystem Assessment*, Geneva, WHO, 2005. Available at: <https://www.who.int/globalchange/publications/ecosystems05/en/> (Accessed: 07 March 2021).

14. *The 1st International Conference on Health Promotion*, Ottawa, WHO, 1986. Available at: <https://www.who.int/teams/health-promotion/enhanced-wellbeing/first-global-conference> (Accessed: 07 March 2021).

15. Jala MAKHZOUMI, “The greening discourse: ecological landscape design and city regions in the Mashreq” in: R. Saliba (ed.) *Reconceptualizing Boundaries: Urban Design in the Arab World*, London, Ashgate, 2015, pp. 63-80.

16. Jala MAKHZOUMI, “Landscape architecture and the discourse on democracy in the Middle East” in: S. Egoz, K. Jorgensen and D. Ruggeri (eds.), *Defining Landscape Democracy: Perspectives on Spatial Justice*. London, Edgar Publishers, 2018. pp.29-38.

17. Jala MAKHZOUMI, “Beirut’s public realm and the discourse of landscape citizenships” in: T. Waterman, J. Wolf and E. Wall (eds.), *Landscape Citizenships*, London, Routledge, 2021, pp. 182-204.