RECONNECTING DUBAI WITH ITS LANDSCAPE

A recently approved plan to significantly increase green space in Dubai hopes to address the city’s poor environmental credentials, however the approaches taken to “greening” until now have been far from ecologically sound.

Words Julian Bollerter

Dubai, which is now just emerging from the effects of the Global Financial Crisis, is poised between the example set by Abu Dhabi of innovation and sustainability (as demonstrated by its innovative Urban Structure Framework Plan and sustainability rating system) and its own recent history as an octane-fuelled “Las Vegas” of the East; a history that saw Dubai become one of the least sustainable cities in the world.

At this critical juncture, a significant project on the books of Dubai’s municipality is a “greening” plan that aims to increase the percentage of green space for each of Dubai’s residents from 13.18 square metres to twenty-five square metres by 2020. The cumulative effect of this apparently modest increase is that by 2020 Dubai will have added a vast 2,351 hectares of green space (image 04) in a very arid desert environment. Significantly, the exact nature of the proposed additional green space is unspecified; it is unclear whether this will be public or semi-public, and how it will be distributed or irrigated. While Dubai now has an approved urban development masterplan, uncertainty remains as to the exact arrangement and nature of this green space (the Dubai 2020 Urban Masterplan is presently only publicly available as a brochure). Nonetheless, presumably the greening plan will result in more lushly vegetated, pastoral, semi-public parks that are relatively popular amongst Dubai’s citizens (image 02).

While apparently benevolent, this “greening” project initiated by Dubai’s subsequent rulers can be interpreted as also being both theological and political in nature. There is considerable academic and anecdotal evidence to suggest that the continuing deployment of this landscape architectural approach trades on a reading of verdant landscape as a symbolic recreation of the Islamic Paradise. The potency of the image of paradise in Islamic culture is, in part, due to the fact that the descriptions of the garden of Paradise are held up as something not only to aspire to in the afterlife, but also as something to recreate here on earth. As such, the greening project within the context of Dubai takes on moral and religious overtones. Due to its religious symbolism this green landscape can be regarded as also being political in nature, being deployed partly as a means of legitimizing the rule of Dubai’s unelected rulers.

In contradiction to its fertile narrative this green landscape requires a massive amount of irrigation water and fertilizer to sustain its verdant illusion in Dubai’s arid environment. According to the Dubai Municipality the amount of irrigation water and fertilizer used to maintain municipal landscapes in 2010 alone was 149 million metres cubed and 4,598 tons respectively. This can be understood in relation to, in summer, one square metre of turf requiring fifteen litres of water per day, a standard tree sixty-four litres and a palm tree 128 litres. While the irrigation water used by the Dubai Municipality is generally treated sewage effluent, the opportunity to put this water towards more productive agricultural ends is denied.

In addition to their massive irrigation requirements, many of these green landscapes have minimal ecological value. Green landscapes in Dubai are largely image; they often have little substantive ecological merit, and in their bid to create images of green verdure they conflict directly with indigenous, desert ecosystems. The sheer artificiality of most designed landscapes in the Dubai context is that 77 percent of what is considered by the Dubai Statistics Centre as being green space within the Emirate of Dubai was grass, an imported and unsustainable plant material. This can be seen to indicate the lack of an ecological agenda or basic levels of environmental responsiveness in many >
01. Sabkha areas contain salt-tolerant shrubs, some mammals, reptiles, amphibians, fish and invertebrates.

02. Lushly vegetated, pastoral, semi-public parks are popular amongst Dubai’s citizens.

03. The amount of total greenspace required to meet the Dubai Municipality target of twenty-five square metres of green space per person.

* As identified by Parsons Harland Bartholomew (1993), Structure Plan for the Dubai Urban Area.
of Dubai’s designed landscapes. As Boris Jensen of the Technical University of Denmark attests, “Dubai’s parks have no references whatsoever to the geographical context, and understood as landscapes, they are often stranger than an equivalent portion of the moon would be in relation to the natural surroundings.”

This artificial landscape condition arguably perpetuates a situation in which the United Arab Emirates (UAE), and Dubai in particular, is significantly destructive in environmental terms. The UAE’s ecological footprint per person dwarfs the global bio capacity by that of 11.8 hectares to 1.8 hectares. Urbanization and the destruction of natural ecologies in the UAE have also contributed to high numbers of threatened fauna species. Of the known twenty-five indigenous mammal species in the UAE, three are known to be threatened. Additionally, of the thirty-four known bird species, eight are considered to be threatened. According to the World Wildlife Fund, this situation would appear to reflect that the UAE residents’ understanding of “the link between lifestyles in the Emirates and its effects on the environment is not understood.” Landscape architecture in Dubai could potentially play an important role in providing “eco-revelatory” landscapes that can illuminate Dubai’s citizens about Dubai’s endemic ecological systems and how they are affected by human-induced climate change and urban development.

One of the problems landscape architecture in Dubai has faced in this respect is the reading of the indigenous landscape as tabula rasa (blank slate). As ex-regional director Andrea King of Cracknell Landscape Architecture explained to me, “… people tend to treat things like a sandbox; they can just level it out and just re-sculpt it in any way they choose. I think that is part of the problem; people perceive that there is nothing there intrinsically about the place which is unique and therefore they [think that] can do whatever they want.” Rather than the desert landscape of Dubai being read as a source of ecological authenticity, it has tended to be relegated to something that needs to be defeated so that “real” green landscape can be established.

Despite the perception of Dubai being a tabula rasa for development it actually does have an ecological framework that could potentially structure a regional open-space system that in turn performs an eco-revelatory role. As far back as 1993 Parsons Harland Bartholomew, in its Structure Plan for the Dubai Urban Area, in fact identified a series of “important biological” zones and sabkha (salt marsh) areas (image 05). The important biological areas included terrestrial habitat in the form of “open desert woodland” of the Rub al Khali desert, which extends south-east of Dubai’s urbanized area (image 04). This landscape contains tree species such as the ghaf tree (Prosopis cineraria) and animals such as the desert hare, gazelles, oryx, foxes and falcons. Sabkha areas contain salt-tolerant shrubs, some mammals, reptiles, amphibians, fish and invertebrates as well as being biologically very productive for microorganisms (image 01).

While many of these important biological zones were under threat in the boom years, since 2008 a number of the developments that would have seen the destruction of these landscapes are now on hold. The present, albeit temporary, situation potentially offers a chance to “save” these significant areas from development (or in some cases to resuscitate them). The Dubai 2020 Urban Development Masterplan is commendable with respect to reserving much of the land presently outside of Dubai’s urban area to the south-east for “nature reserves.” However, the actual integration of the “important biological areas,” identified by Parsons Harland Bartholomew, into the urban >
fabric itself appears somewhat fragmented and piecemeal.

To this end I propose a new regional public open space system, ensconced within Dubai’s urban form, which could perform an eco-revelatory role in connecting a city with its desert landscape setting. This regional public open space system would extend from the ghaf woodlands on the southern desert edge of Dubai to the sabkha landscapes traditionally found along Dubai’s coastline and estuarine “creek” system (image 6). At the heart of this ecological matrix is the head of Ras Al Khor (Dubai’s estuarine “creek”). Currently a small 6.2-square-kilometre part of this sabkha area has been designated as Ras Al Khor Wildlife Sanctuary, but is currently cut off from larger ecological linkages, a situation the proposal would address. This conservation area is surrounded to the south-west by a sabkha landscape that is identified as forming a natural drainage filter to Ras Al Khor – it was in the process of being destroyed by the gargantuan Sheikh Mohammed Gardens development, which has now been cancelled. The further disturbance of this natural drainage filter by the Sheikh Mohammed Gardens project and the increased pollution and nutrient runoff from encroaching urban development would have had a significant impact on the already degraded Ras Al Khor hydrological system and the fragile ecology of the conservation zone. As such the regional public open space system proposal sees an expansion of the Ras Al Khor conservation area to safeguard the entirety of the sabkha water filter area so as to protect the ecological system of Ras Al Khor.

To the south of the Ras Al Khor sabkha landscape, large-scale desert reserves are proposed to be inserted into Dubai’s projected urban edge (image 06 and 08). Located on this severely degraded desert edge, these reserves, as part of the regional public open space system, aim to facilitate ecological connections from the desert through to Ras Al Khor and the coast beyond. The existing ecology of this Aeolian plain landscape has been threatened by rampant urban development, and perhaps even more significantly, by the proliferation of camels that roam these desert areas. The damage caused by camels is due to overgrazing, which is in turn a result of the dramatic increase of the number of camels in the UAE (from 39,500 in 1976 to 250,000 in 2004). Camel overgrazing causes ecological destruction in that through the removal of small flora species, herbivores such as the gazelle and oryx are denied their primary food source, which then ultimately affects carnivorous species such as the falcon and Arabian red fox. So as to maximize ecological diversity, the reserves are to be protected against overgrazing by a camel-proof fence (typically to the south-east) and urbanism, allowing camel grazing to be effectively managed. The camel-proof fence is designed to have perforations that will allow the passage of all other indigenous fauna that are, without exception, smaller than the camel. Managing camel grazing in the reserves will eventually result in an ecologically diverse landscape that will provide a tourist and recreational attraction, as well as reducing the Aeolian erosion of sand in close proximity to the city (images 07-09). This is a long-term project, and the available literature estimates that it would take an estimated twenty to fifty years for “natural vegetation states” to emerge.

Dubai’s significant projected population growth, increasing aridity through climate change and a severely over-extracted groundwater supply all indicate significant environmental challenges ahead for Dubai. In contradiction to this, Dubai Municipality’s plans to furnish the city with an additional 2,351 hectares of green space, which is presumably to be ecologically sterile and a massive consumer of freshwater supplies, would appear to potentially exacerbate these emerging crises. This is not to say “green” spaces in Dubai are not important, rather that they should be considered the “jewels” in a larger, more ecologically responsive regional open-space system. It is in this context that I believe the dominance of Dubai’s excessively “green” landscapes should be questioned and alternatives sought that reconnect Dubai’s urban form, and its citizenry, to its remnant ecological structure.

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1 Boris Jensen, Dubai: Dynamics of Bingo Urbanism (Copenhagen: The Architectural Publisher, 2007), 119.