

Greening the Desert

Over 80% of the country is desert: Landscaping here has its challenges

Dubai, with a population of 2.6 million (2008), is one of seven emirates that are the United Arab Emirates. Located in the Persian Gulf on the Arabian Peninsula, Dubai is synonymous with unprecedented development within the region. Along with that development comes the need for landscaping, landscaping in a desert that at times is fraught with challenges that Canadian landscape managers would find incomprehensible.

In a climate where the summer temperatures can reach above 55°C and where precipitation is less than 120 mm annually one would expect very little plant life to grow: that is actually the case. The local vegetation consists of Date Palms (*Phoenix dactylifera*), *Acacia* and the imported Mesquite (*Prosopis sp.*), as well as other minor species. These tough, resilient plants are found throughout the majority of the country where the landscape consists of low and high dune and flat, arid plains. Of course the United Arab Emirates is not all desert, there are mountains, rich coastal areas and of course the ubiquitous oasis where the vegetation is quite lush, however over 80% of the country is desert: landscaping here has its challenges.



Except in intensely developed urban areas the desert is always in view, rough tracks meander through an ever changing landscape of dunes and stone.

In coastal areas the excessive humidity is almost unbearable both to plant and person but of course it is the paucity of water that is the overwhelming challenge of all who design, build and cultivate the landscape. The drying heat, which demands intense water use in the landscape, has already begun to climb as summer approaches, by early April the temperature has reached 35°C at mid-morning and will climb rapidly to its July apex of 55°C.



The Dubai skyline, futuristic in design could have come from the cover of one of the Dune trilogies by Herbert James. The commercial occupancy rates in Dubai since the recession have dropped to between 27-40%, many buildings are now empty.

Landscaping in this climate has severe limitations, water, heat, soils, plant availability, dust and of course the ongoing maintenance in such a dramatic climate. Planting is thus relegated to high visibility, popular use areas such as large government and high profile commercial facilities, private residential areas, golf courses and the median areas in the downtown core.

*An urban retreat designed by Desert Group, the road allowances in prosperous subdivisions are often landscaped also and may feature tropicals such as Agave and Desert Rose (*Adenium obesum*).*



There are several large landscape companies operating in the region and according to Canadian, Jeff Hicks who is project manager for Desert Group one of the greatest challenges transitioning from a Canadian run company to a Middle East company other than the obvious 55°C degree heat and 90% relative humidity during the summer months are the unique horticultural challenges working with desert type soils. Hicks states that "the pH of the soil and ground water is around 8 (many plants such as the commonly used Rubiaceae family develop chlorosis above 7 – 7.2)

additionally the soil is often very salty” (upward of 2000 ppm of TDS). He goes on to explain that there are unusual things about the soil (what was once a young ocean floor), “it took me forever to understand that its elemental makeup can kill plants quickly with no explanation evident in traditional soil tests”. Calcium carbonate (CaCo₃) is a gas that is released from disturbed subsoil, excessive amounts are lethal to plants however, since it is a gas it does not show up on soil tests. Hicks’s remedy to assist in the detection of this lethal gas was to pour vinegar on the soil and see if there was a chemical reaction; in instances where reactions were severe planting had to be delayed.

Since there are so few landscape companies in the region contractors such as Desert Group must be full service. With over seven separate companies operating under the Desert Group umbrella they offer everything from swimming pool and water feature installation to turf services, golf course construction, wholesale nurseries and a full service garden center which on a recent visit even had a library where expats could get partial credit for novels and books they want to exchange.



What water can do, one of the many golf courses, some partially completed most seldom used.

I would have expected to see something different in one of the very few garden centers in Dubai, and I did. Unusual because of the scarcity of residential landscape equipment, the garden center offered gasoline powered weed trimmers, hedge shears and lawn mowers. The Dubai Garden Center became not only a retailer of such landscape gear but also regional distributors. Otherwise this rare garden center was the epitome of garden centers here in Canada who serve high-end clients.

Where gardens are scarce and difficult to maintain many have turned to container gardening, a culture that has evolved over hundreds of years in this region but is experiencing a renaissance. The Dubai Garden Center featured an extensive range of very large pots and urns with many produced by Desert Group’s own factory; here was a selection, row upon row, that would shame most Canadian garden centers.



The Dubai Garden Center features a wide variety of pots and urns, often quite large with many being made in the company’s own factory. (Photo credit Jeff Hicks)

In a climate fraught with the obvious horticultural challenges, problems abound for the transplanted Canadian. Understanding complex soils, an intimate knowledge of irrigation and of course learning an entirely new repertoire of plants are all in a days work.

What about the employees? Hicks’s challenge right off the plane from Canada was even compounded further beyond the daunting horticultural challenges of working in the desert. His first job was to meet with a client’s Egyptian and Palestinian engineers, Desert Group’s upper cast Indian project managers and lower cast Indian and Pakistani tradesman, Nepali and Bangladeshi labour and Filipino supervisor. Their project: to build a roof garden in a climate where the temperature was already in excess of 35°C.



A desert of Petunias, most of the public landscape plantings, like the masses of Petunias planted alongside the highways interchanges in the downtown core are irrigated. Water is filtered, untreated municipal grey water, often releasing a unique smell as it is sprayed through the irrigation heads. (Photo credit Jeff Hicks)