

faced fundamental questions that persist today: rising demand for plants; plant propagation and protection; irrigation water supplies and technologies; and unclear social, cultural, and aesthetic aims (Miller, 1978; Cochrane and Brown, 1978; Goodin and Northington, 1979; Kelly and Schnadelbach, 1976). Golany's (1983) works on design in arid environments were influential in addressing these issues.

The fields of landscape and garden history also grew during this period in the American, European, and Islamic realms (e.g., *Environmental Design: Journal of the Islamic Environmental Design Centre*, 1986; Hussain, Rehman and Wescoat, 1996; Petruccioli, 1994, 1997; Ruggles, 1991; Wescoat, 1996; Wescoat and Wolschke-Bulmahn, 1996). The Aga Khan Award for Architecture and programmes rec-

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ognised historical and contemporary excellence in landscape design (Serageldin, 1989; Steele, 1994). These efforts were also complemented by a longer record of research on the history of agriculture, horticulture, and agronomy (Watson 1983; Butzer, 1994; and al-Hassan and Hill, 1986).

Environmental activists and scientists have been more effective in challenging modern development trends and impacts (Hester, 1990). They have struggled to reduce irrigation, increase use of native and drought-adapted plant species, and shift to wastewater and "grey water" for tertiary water treatment and landscape irrigation. Their criticisms have been translated into creative design solutions by groups such as the Center for Regenerative Studies at California Polytechnic University at Pomona, the Arid Lands Studies programmes at the University of Arizona, and Xeriscape organisations (Lyle, 1994; Phillips, 1995; Denver Water, 1997; and Sunset Books, 1988).

These trends continued in the 1980s and 1990s as horticultural and land development industries and government agencies sought to catch up with changing public demands for low input, low-water, and naturalistic styles of landscape design. During the 1990s Arizona has sponsored an annual desert horticulture conference that combines ecological, technological, and design issues (Desert Horticulture, 1996). Arizona's Arid Lands Newsletter focused on "Desert Architecture" in its issue of Fall/Winter 1994. Other current newsletters and journals include the RIOD Circular on Desertification, the UNEP Desertification Control Bulletin, and the International Arid Lands Consortium Newsletter (<http://ag.arizona.edu/OALS/IALC>).

While landscape design preferences and practices seem to be changing as new emigrants to arid regions find beauty in xeric flora, old patterns of arid land and water development die hard, and the connections among landscape design, landscape history, and environmental policy in arid environments remain weak. Theses, monographs,