

" EVERY DESERT AREA PRESENTS A
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These five phenomena give rise to seasonal and annual moisture deficits. Their complex interactions in and with the landscape yield an enormous variety of environmental and ecological conditions. Some deserts, such as the Sonora in the southwestern U.S., have highly diverse flora and fauna while others, like the nearby Mojave, have a more limited range of native species. Human uses of arid regions also vary enormously. Land uses range from pastoralism, rainfed and irrigated agriculture to mining, manufacturing, urban settlement, and recreation. Deserts are places of movement ranging from transportation to religious pilgrimage. They are also places of wilderness conservation and military testing. As technologies and patterns of desert occupancy change, so do trends in environmental design. Settlement on the humid margins of a desert shape the use, condition, and perceptions of the desert (e.g., Heathcote, 1983; and Sharma, 1972).

Perceptions are important in leading groups to settle in or avoid an arid region. The erroneous belief that "rain follows the plow... or the tubewell" has led many farmers to try to cultivate semi-arid lands (Glantz, 1995). They often hope that irrigation and shelterbelts will increase regional rainfall as well as local microclimates. Other groups, both in the U.S. and Middle East, have viewed deserts as promised lands, paradise gardens, or reclamation frontiers that will "bloom as a rose" when properly irrigated and tended by an upright society - perceptions and beliefs that are sometimes fulfilled and at other times dashed.

This diversity defies simple classifications of arid landscape problems and solutions. On the one hand, every desert area presents a different situation that changes as economic, political, technological, and cultural conditions unfold. On the other hand, experience gained in one arid environment can sometimes be successfully adapted for applications elsewhere.

What are the lessons and limits of landscape design in arid environments of the world? This was a key question for the roundtable dis-



LEFT: WATERLOGGING AND SALINITY NEAR THE SALTON SEA, SOUTHERN CALIFORNIA, USA.

MIDDLE: CHRONIC DRAINAGE PROBLEMS IN THE RAVI RIVER FLOODPLAIN, LAHORE, PAKISTAN.

RIGHT: ABANDONED SHIPS NEAR THE TOWN OF MUYNAK, UZBEKISTAN, ALONG THE FORMER SHORELINE OF THE ARAL SEA.

cussion. Case studies were selected from Iran, Saudi Arabia, Egypt, Sudan, Morocco, and the United States. Although varied in geographic scope, these cases do not encompass all of the arid regions of the world (e.g., China, Central Asia, northwest India and Pakistan, southern Africa, and South America, not to mention some important areas of experimentation in the Middle East, Maghreb, and Sahara).

At the same time, the case studies do encompass an enormous variety of conditions: climatically, they range from the hyper-arid deserts of Saudi Arabia to sub-humid foothills of Iran; physiographically, from the sand dunes of northern Sudan to Mediterranean coasts of California; economically, from local orchards and herding communities of the Sudan to high-tech export marketing in Morocco; and socially, from urban children of Cairo and farmers in the Sahel to pre- and post-revolutionary urban life in Iran. These topics invite comparison and contrasts: universities in Iran and the U.S.; parks in Egypt and Iran; plant nurseries in the Sudan, Saudi Arabia, and the U.S.; and office complexes in Morocco and Saudi Arabia to name a few.

These case studies also reflect the problems of unsustainable development, or “desertification”, where environments become “desert-like”. Processes of desertification include deforestation, overgrazing, waterlogging, salinisation, accelerated erosion, and biodiversity reduction which lead to the degradation of vegetation, soils, ecosys-